

Service Manual

Volume 1

Mini DV

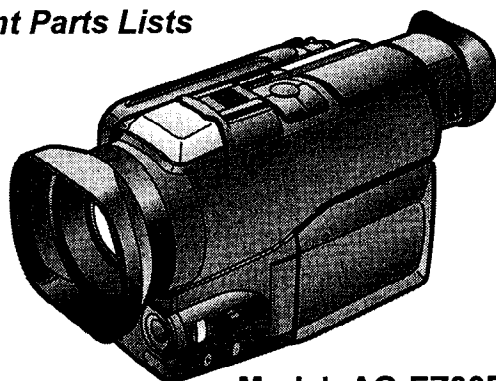
Sec. 1 *Operating Instructions*
Sec. 2 *Disassembly Procedures*
Sec. 3 *Block Diagrams &
Schematic Diagrams*
Sec. 4 *Exploded Views &
Replacement Parts Lists*
Sec. 5 *VW-AD3E*

Digital Camera Recorder

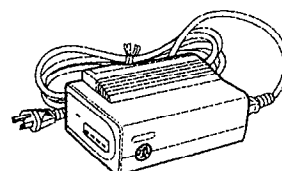
AG-EZ30E

AC Adaptor

VW-AD3E



Model: AG-EZ30E



Model: VW-AD3E

ITEM	SPECIFICATION	ITEM	SPECIFICATION
POWER	Source: Battery Pack; 7.2V DC AC Adaptor; 7.9V DC Consumption: During Camera Recording Using The LCD; 7.9W During Camera Recording Using The Viewfinder; 6.7W	VIDEO	VIDEO OUTPUT LEVEL: 1.0 Vp-p, 75Ω S-VIDEO OUTPUT LEVEL; Y: 1.0 Vp-p 75Ω C: 0.3 Vp-p 75Ω
		AUDIO	RECORDING FORMAT: Digital PCM Stereo; 16 bit (48 kHz/2 ch) 12 bit (32 kHz/4 ch) OUTPUT LEVEL: 316 mV, 600Ω
RECORDING FORMAT	Digital Video SD Format	DIGITAL STILL PICTURE	Digital Still Picture Output, Control Signal Input/Output (Transfer rate: max. 115 kbps)
TAPE FORMAT	Mini DV Cassette Tape (Tape width 6.35mm)	DIGITAL INTERFACE	DV Output Terminals (Compliant with IEEE 1394, 4-pin)
TAPE SPEED	SP mode: 18.812 mm/s LP mode: 12.555 mm/s Record/Playback Time SP mode: 60 min. with DVM60 LP mode: 90 min. with DVM60	OPERATING TEMPERATURE	0 ~ 40°C
		OPERATING HUMIDITY	10 ~ 80%
CAMERA	PICK-UP ELEMENT: CCD (Charge Coupled Device)	WEIGHT	Approx. 690g (without Battery Pack)
	STANDARD ILLUMINATION: 1,400 lux	DIMENSIONS	Approx. 80 (W) × 105 (H) × 192 (D) mm
	MINIMUM REQUIRED ILLMINATION: 1 lux	STANDARD ACCESSORIES	1 pc. AC Adaptor 1 pc. Battery Pack 1 pc. S-VIDEO Cable 1 pc. DC Input Cable 1 pc. AC Cable 1 pc. AV Cable 1 pc. Remote Controller 1 pc. Battery for Remote Controller 1 pc. Output Terminal Box 1 pc. Shoulder Strap 1 pc. 21 pin Adaptor 1 pc. Cassette Tape 1 pc. Filter Kit 1 pc. Wide Conversion Lens 1 pc. Cassette Adaptor
	LENS: 12 : 1 Wide-angle Power Zoom Lens (Optical capability) F1.6 Focal Length: 4.0-48mm Digital AI Auto Focus/Auto Iris Filter Diameter: 43.0 mm		
	IMAGE SENSOR: 1/4 inch CCD Image Sensor × 3 (RGB)		
	VIEWFINDER: 0.5 inch Colour Electronic Viewfinder 2.5-inch Colour LCD Monitor		
VIDEO	RECORDING FORMAT: Digital Component		
	TELEVISION SYSTEM: CCIR; 625 Lines, 50 Fields PAL Colour Signal		

Weight and dimensions shown are approximate.
Specifications are subject to change without notice.

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WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product.

Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

INTRODUCTION

This Service Manual Volume 1 contains technical information such as Operating Instructions, Disassembly Procedures, Block Diagrams, Schematic Diagrams & Circuit Board Diagrams, Exploded Views & Parts Lists and AC Adaptor VW-AD3E sections which service personnel to understand and service the Panasonic DV Camera Recorder model AG-EZ30E and AC Adapter model VW-AD3E.

For other technical information such as Service Information, Maintenance & Mechanical Adjustment Procedures, Electrical Adjustment Procedures, please refer to the Service Manual AG-EZ30E Volume 2.

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INTRODUCTION

Caution for AC CORD (VJA0940 type)

Information for Your Safety

IMPORTANT

YOUR ATTENTION IS DRAWN TO THE FACT THAT RECORDING OF PRE-RECORDED TAPES OR DISCS OR OTHER PUBLISHED OR BROADCAST MATERIAL MAY INFRINGE COPYRIGHT LAWS.

WARNING

TO REDUCE THE RISK OF FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE.

CAUTION

TO REDUCE THE RISK OF FIRE OR SHOCK HAZARD AND ANNOYING INTERFERENCE, USE THE RECOMMENDED ACCESSORIES ONLY.

FOR YOUR SAFETY

■ DO NOT REMOVE THE OUTER COVER.

To prevent electric shock, do not remove the cover. No user serviceable parts inside. Refer servicing to qualified service personnel.

Caution for AC Mains Lead

For your safety, please read the following text carefully.

This appliance is supplied with a moulded three-pin mains plug for your safety and convenience.

A 5-ampere fuse is fitted in this plug.

Should the fuse need to be replaced please ensure that the replacement fuse has a rating of 5 amperes and it is approved by ASTA or BSI to BS1362.

Check for the ASTA mark  or the BSI mark  on the body of the fuse.

If the plug contains a removable fuse cover you must ensure that it is refitted when the fuse is replaced.

If you lose the fuse cover, the plug must not be used until a replacement cover is obtained.

A replacement fuse cover can be purchased from your local Panasonic Dealer.

IF THE FITTED MOULDED PLUG IS UNSUITABLE FOR THE SOCKET OUTLET IN YOUR HOME THEN THE FUSE SHOULD BE REMOVED AND THE PLUG CUT OFF AND DISPOSED OF SAFELY.

THERE IS A DANGER OF SEVERE ELECTRICAL SHOCK IF THE CUT OFF PLUG IS INSERTED INTO ANY 13-AMPERE SOCKET.

If a new plug is to be fitted please observe the wiring code as shown below.

If in any doubt, please consult a qualified electrician.

■ IMPORTANT

The wires in this mains lead are coloured in accordance with the following code:


Blue: Neutral

Brown: Live

As the colours of the wires in the mains lead of this appliance may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

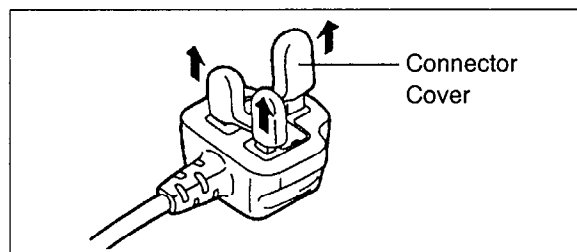
The wire which is coloured BLUE must be connected to the terminal in the plug which is marked with the letter N or coloured BLACK.

The wire which is coloured BROWN must be connected to the terminal in the plug which is marked with the letter L or coloured RED.

Under no circumstances should either of these wires be connected to the earth terminal of the three pin plug, marked with the letter E or the Earth Symbol .

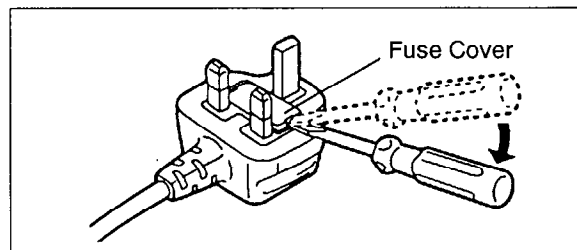
■ Before use

Remove the Connector Cover as follows.

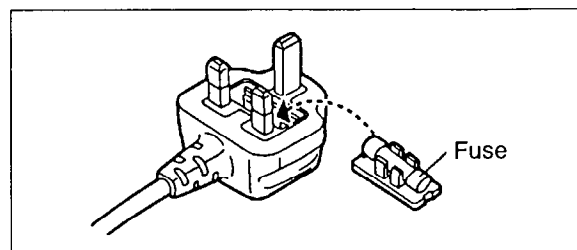


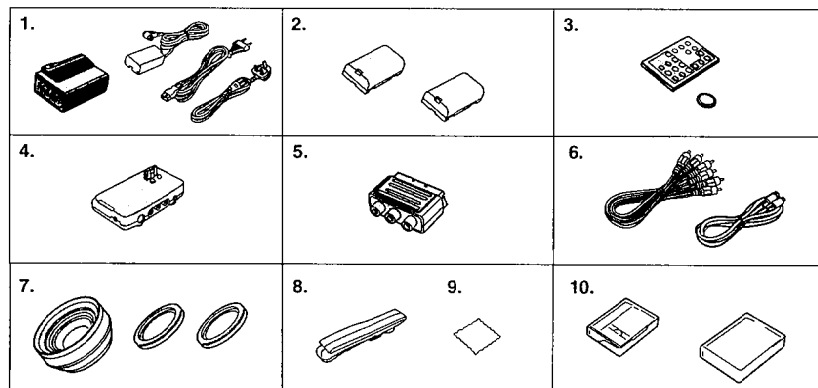
■ How to replace the Fuse

1. Remove the Fuse Cover with a screwdriver.



2. Replace the fuse and attach the Fuse cover.



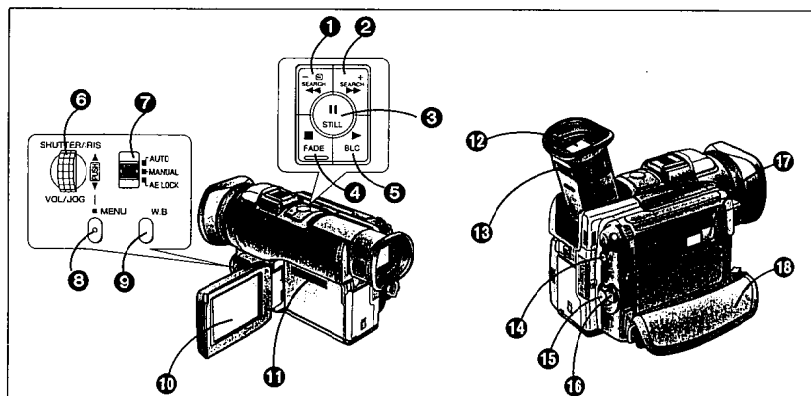


Standard Accessories

1. **AC Adaptor** (→ 16, 18)
To supply power to the Movie Camera.
To charge the Battery.
DC Input Cable and AC Mains Cable
(→ 16, 18)
To connect the AC Adaptor to the Movie Camera and to an AC Mains socket.
2. **Battery Pack** (→ 18)
To supply the Movie Camera with power.
3. **Remote Controller and Button-Type Battery**
(→ 100, 106)

4. **Output Terminal Box [AV ONE TOUCH STATION]** (→ 54, 56, 110)
Equipped with AV Sockets, Edit Socket, Digital Still Picture Terminal and Headphones Socket.
5. **21-pin Adaptor** (→ 54, 112, 114, 116)
6. **AV Cable** (→ 54, 112, 114, 116)
S-Video Cable (→ 54, 112, 114, 116)
7. **Filter Kit/Wide Conversion Lens** (→ 184)
8. **Shoulder Strap** (→ 28)
9. **Cleaning Tissue**
To clean the Lens and the LCD Monitor.
10. **Cassette/Cassette Adaptor** (→ 186)

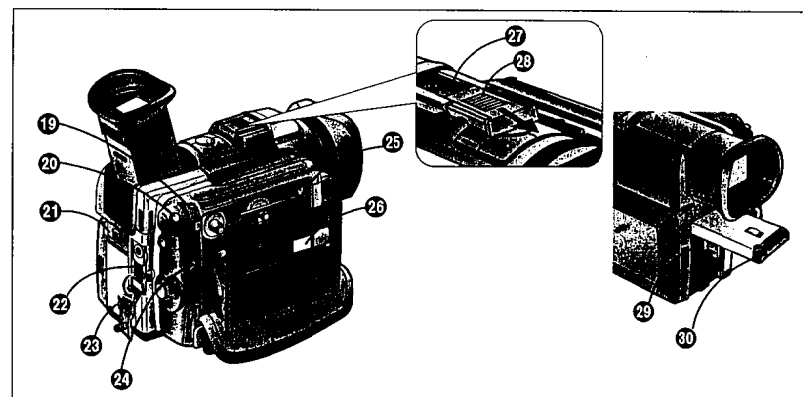
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Controls and Components

1. **Reverse Search Button / Rewind/Review Button / Recording Check Button** [◀◀] (→ 32, 46, 48, 58)
2. **Forward Search Button / Fast Forward/ Cue Button** [▶▶] (→ 48, 58)
3. **Still Button / Pause Button** [II] (→ 44, 52)
4. **Fade Button / Stop Button** [■] (→ 46, 68)
5. **Backlight Button / Play Button** [▶] (→ 32, 46)
6. **Multi-Function [PUSH] Dial** (→ 42, 44, 46, 52, 60, 70, 76, 86, 88, 126, 134, 138)
7. **Mode Selector Switch [AUTO / MANUAL / AE LOCK]** (→ 30, 36, 70, 82, 84, 86, 88, 90)
8. **Menu Button [MENU]** (→ 42, 44, 60, 70, 76, 78, 80, 126, 134)
9. **White Balance Button [W.B.]** (→ 82, 84)
10. **LCD Monitor** (→ 26)
11. **Speaker** (→ 46)
12. **Finder** (→ 26)
13. **Eyepiece Corrector Knob** (→ 26)
14. **VCR (Playback) Mode / Camera (Recording) Mode Button (and Lamps)** (→ 30, 46)
15. **Recording Start/Stop Button** (→ 30)
16. **Power Switch [POWER ON/OFF]** (→ 26, 30)
17. **Cassette Compartment Lock Button** [△ LOCK] (→ 22)
18. **Grip Belt** (→ 28)

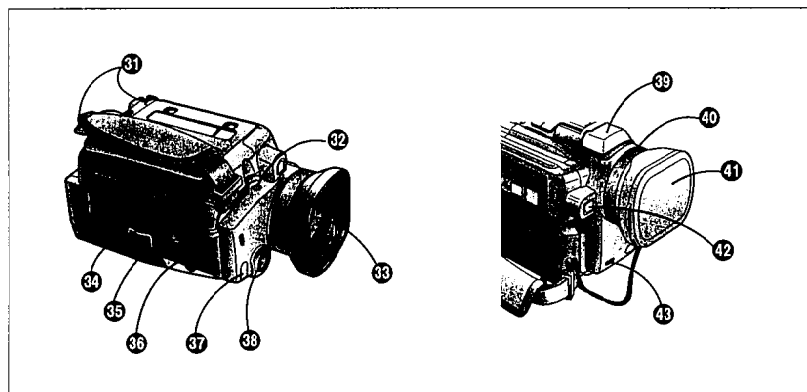
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19. **Zoom Lever [W/T]** (→ 38)
20. **Photoshot Button [PHOTO SHOT]** (→ 40)
21. **LCD Monitor Open Lever [PUSH OPEN]** (→ 26)
22. **DV Terminal [DV]**
To output digital signals.
Connect it to digital video equipment with IEEE1394-compatible DV input terminal.
♦ This terminal cannot be used to input digital signals into this Movie Camera.
23. **Battery Compartment Cover Open Lever [BATTERY]** (→ 18)
24. **Cassette Eject Button** [▲ EJECT] (→ 22)
25. **Cassette Compartment** (→ 22)
26. **Cassette Compartment Window** (→ 22)
27. **Accessory Shoe**
To attach the Stereo Zoom Microphone (optional).
28. **Shoe Cover**
When using the Shoe, remove the Shoe Cover by sliding it in the direction of the arrow.
29. **Battery Eject Lever** (→ 18)
30. **Cover for DC Input Cable Slot** (→ 16)

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SECTION 1 GENERAL DESCRIPTIONS



31 Shoulder Strap Holders (→ 28)

32 Microphone Socket [MIC]

To connect an external microphone or audio equipment. (Connecting to this socket deactivates the built-in microphone.)

Socket: M3-type
Impedance: Less than 4.7 kohm
Type: Stereo
(When connecting a mono microphone, no sound is recorded on the right channel.)
Sensitivity: Approx. -70 dB
Power Source for Microphone: Not available

33 Lens

34 Support Leg (→ 46)

35 Tripod Receptacle

To mount the Movie Camera on an optional tripod.

36 Multi Terminal [MULTI] (→ 54, 56, 110)

37 Remote Control Sensor (→ 108)

38 Focus Button [FOCUS] (→ 36)

39 Microphone (built-in, stereo)

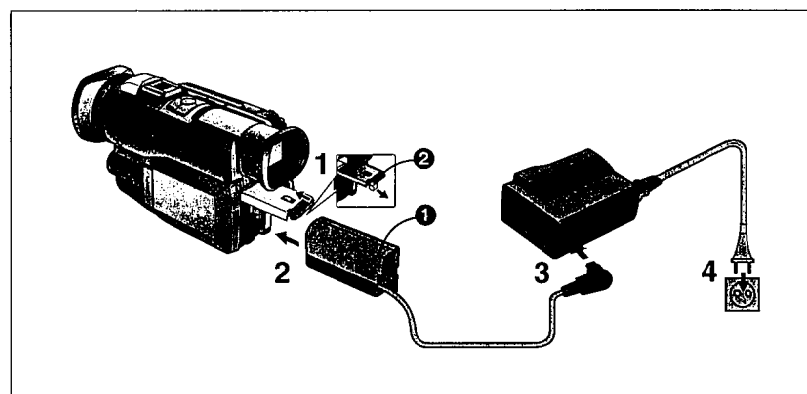
40 Manual Focus Ring (→ 36)

41 Lens Cap (→ 56, 84)

42 White Balance Sensor (→ 158)

43 Recording Lamp (→ 30)

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The 3 Types of Power Supplies

- 1 AC Adaptor (supplied) to supply power from an AC mains socket
- 2 Car Battery Charger (optional) to supply power from a Cigarette Lighter Socket
- 3 Battery (supplied) (→ 18)

■ Supplying Power from an AC Mains Socket

1 Slide the [BATTERY] Lever upward to open the Battery Compartment Cover.

2 Insert the battery-shaped connector of the DC Input Cable ① into the Movie Camera. Pull back the Cover for the DC Input Cable Slot ② and lift it. Pass the DC Input Cable through the slot and close the Battery Compartment Cover.

3 Connect the other end of the DC Input Cable to the AC Adaptor.

4 Connect the AC Mains Cable to an AC mains socket.

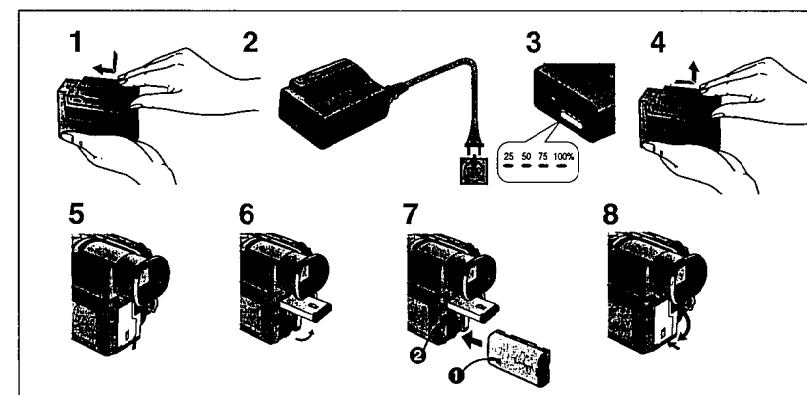
- ◆ Before disconnecting the AC Mains Cable, set the [POWER ON/OFF] Switch to [OFF].
- ◆ If you use the Movie Camera for a long time, it becomes warm. However, this is normal.

■ Supplying Power from the Cigarette Lighter Socket in a Car

You can use the optional Car Battery Charger VW-KBD1E to supply the Movie Camera with power from the Cigarette Lighter Socket in a car. In addition, you can also use it to charge the Movie Camera's Battery.

- ◆ After use, be sure to disconnect the Car Battery Charger from the Cigarette Lighter Socket.
- ◆ Be sure to start the car engine before you connect the Car Battery Charger, otherwise the fuse may blow.
- ◆ Use the DC Input Cable supplied with the Movie Camera for connecting, not the one supplied with the VW-KBD1E.

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■ Supplying Power with the Battery

The Battery was only minimally charged before shipping. Therefore, fully charge it before you use it for the first time.

1 Place the Battery on the AC Adaptor as shown above and slide it horizontally until it stops.

2 Connect the AC Mains Cable to the AC Adaptor and an AC mains socket.

3 When all four Charge Lamps on the AC Adaptor are lit, charging is finished.

4 Remove the Battery by sliding it in the opposite direction of Step 1 above.

- Also disconnect the AC Mains Cable.

5 Slide the [BATTERY] Lever.

6 Open the Battery Compartment Cover.

7 Insert the Battery with ① pointing inside.

8 Close the Battery Compartment Cover so that it locks with a click.

Removing the Battery

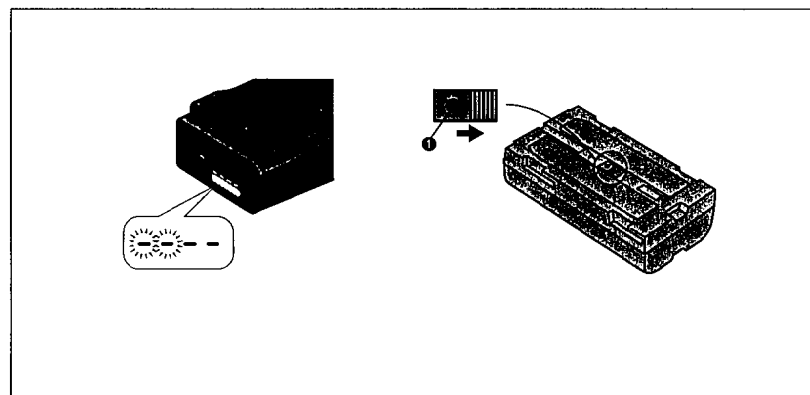
Open the Battery Compartment Cover and push the Battery Eject Lever ②.

- ◆ Hold your hand over the Battery Compartment to prevent the Battery from dropping.
- ◆ Before removing the Battery, set the [POWER ON/OFF] Switch to [OFF].

Caution

Be sure to insert the Battery with the [▲] mark pointing into the Movie Camera. If you insert it with the mark pointing outside, it could damage the Movie Camera.

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Charging Time and Maximum Time for Continuous Recording

Battery No.	Charging Time	Max. Continuous Recording Time
Supplied	80 min.	85 min. (70 min.)
VW-VBD1E	80 min.	85 min. (70 min.)
VW-VBD2E	160 min.	160 min. (125 min.)
CGR-B/814	320 min.	360 min. (270 min.)

(The times shown in the above chart are approximations. The figures in parentheses show the recording time when using the LCD Monitor.)

The times listed above for your information indicate the duration of recording performed at an ambient temperature of 20°C and 60% relative humidity. The charging time may be longer when you charge the Battery at higher or lower temperature.

- During use and charging, the Battery becomes warm. The Movie Camera, too, becomes warm during use.
- When you repeatedly stop and restart recording, the recording time per Battery is shorter than listed above.

- If you do not use the Battery for a long time, please read the Precautions for Storage (→ 148).

When the Charge Lamps Flash

When the internal temperature of the Battery or the ambient temperature is extremely high or low, the Charge Lamps on the AC Adaptor flash.

When the Charge Lamps flash slowly

The Battery is being charged, but charging takes longer than normally.

When the Charge Lamps flash in pairs

Charging is not possible. When the temperature becomes appropriate for charging, the Charge Lamps stop flashing and charging starts.

Using the Charge Confirmation Marker

You can use this marker to easily distinguish between charged and discharged Batteries. For example, slide the knob so that the red dot (●) ① is visible after the charging is completed.

Inserting the Cassette

1 Slide the [▲ EJECT] Lever ① upward to open the Cassette Compartment.

2 Insert the cassette.
Insert the cassette with its window in position ②.

3 Close the Cassette Compartment and press the [△ LOCK] Button to lock the Cassette Compartment.

- If the Movie Camera is supplied with power, above operation step 1 can be operated without turning on the Movie Camera.
- When opening or closing the Cassette Compartment, push down the Grip Belt so that it does not obstruct the opening and closing of the Cassette Compartment.

Otherwise the Grip Belt may prevent the Cassette Compartment from opening completely, or it may get caught under the Cassette Compartment Cover and prevent it from closing properly.

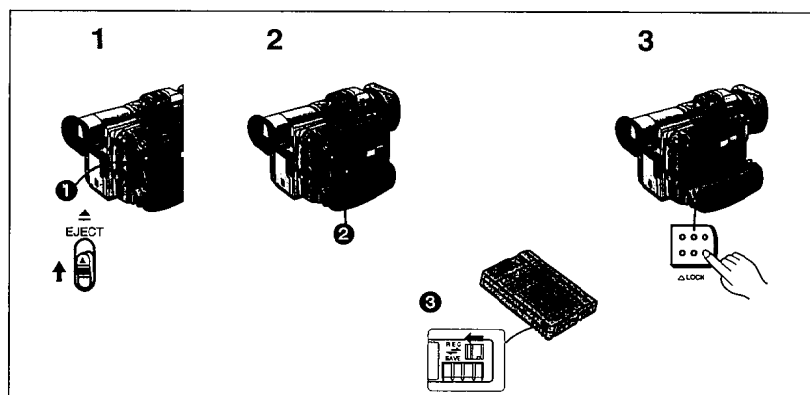
- When inserting the cassette, make sure it faces in the right direction and then push in straight down until it stops.
- When you insert a cassette onto which you have recorded before, use the Camera Search Function (→ 58) to search for the position from which you want to continue recording.
- When you insert a new cassette, rewind the tape to the beginning before starting to record.

Preventing Accidental Erasure of Recordings

Opening the cassette's erasure prevention slider ③ (sliding it in the direction of the [SAVE] arrow) prevents recording. To record again, close the erasure prevention slider (slide it in the direction of the [REC] arrow).

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LP Mode

The desired recording speed can be selected with [REC SPEED] on the Menu. (→ 126-130)

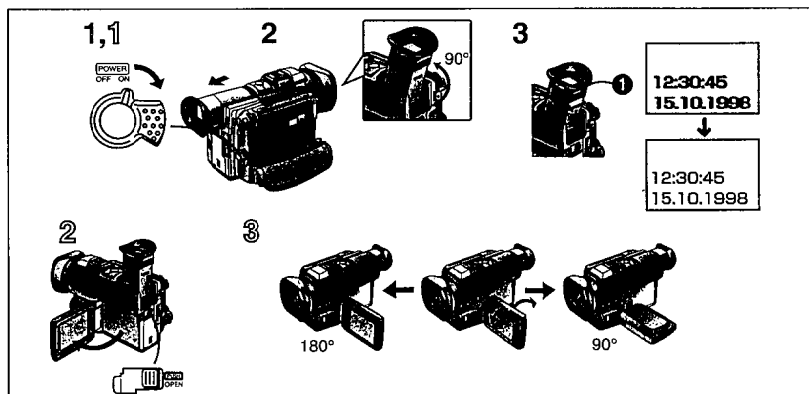
If you select the [LP] Mode, the possible recording time is 1.5 times as long as in the SP Mode.

Recording in the LP mode does not deteriorate the picture quality. However, the playback picture may contain mosaic-like patterns and certain functions may be restricted.

- In the following cases, mosaic-like patterns may appear in the playback picture or the picture may not be played back correctly:

- When a cassette recorded in the LP Mode on this Movie Camera is played back on other digital video equipment.
- When a cassette recorded in the LP Mode on other digital video equipment is played back on this Movie Camera.
- When a cassette recorded in the LP Mode on this Movie Camera is played back on digital video equipment not featuring the LP Mode.
- In the Slow Motion or Still Advance Playback Mode. (→ 50, 52)
- When using the Camera Search Function. (→ 58)
- As the recording track width in the LP Mode is smaller than the head width, recording new sound onto an already recorded cassette (audio dubbing) (→ 96) is impossible.

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Using the FINDER

Before using the FINDER, adjust it to your eyesight so that the indications in the FINDER are clear and easy to read.

- 1 Set the [POWER ON/OFF] Switch to [ON].
- 2 Slide the FINDER backward.
The angle of the FINDER can be adjusted upward. However, be sure to slide the FINDER backward until it stops, before turning it upward.
- 3 Adjust by sliding the Eyepiece Corrector Knob ①.
You can adjust the brightness of the FINDER on the Menu. (→ 126-130, 138)

Using the LCD MONITOR

It is also possible to record while viewing the picture on the opened LCD MONITOR.

- 1 Set the [POWER ON/OFF] Switch to [ON].

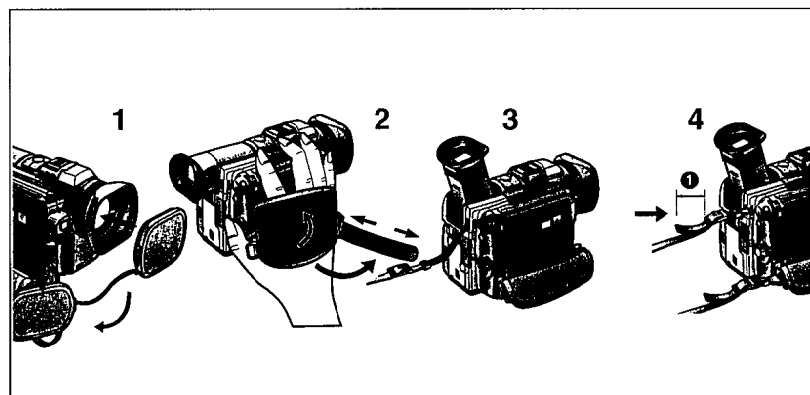
- 2 Push the [PUSH OPEN] Lever and turn out the LCD MONITOR approximately 90° in the direction of the arrow.
The FINDER turns off.

Adjusting the Angle

- 3 Adjust the angle of the LCD MONITOR according to the desired recording angle.
 - ◆ The LCD MONITOR rotates upward a maximum of 130° ② and downward a maximum of 90° ③ from its normal vertical position. Trying to forcefully rotate it beyond this range could seriously damage the Movie Camera.
 - ◆ You can adjust the colour level and brightness of the LCD MONITOR on the Menu. (→ 126-130, 138)

Closing the LCD MONITOR

Push the LCD MONITOR close until the [PUSH OPEN] Lever locks with a click.



Handling the Lens Cap

Before you start recording, remove the Lens Cap.

- 1 You can hook the removed Lens Cap onto the Grip Belt.
When not actually recording, attach the Lens Cap to the Lens to protect it.

Adjusting the Grip Belt

You can adjust the Grip Belt to the size of your hand.

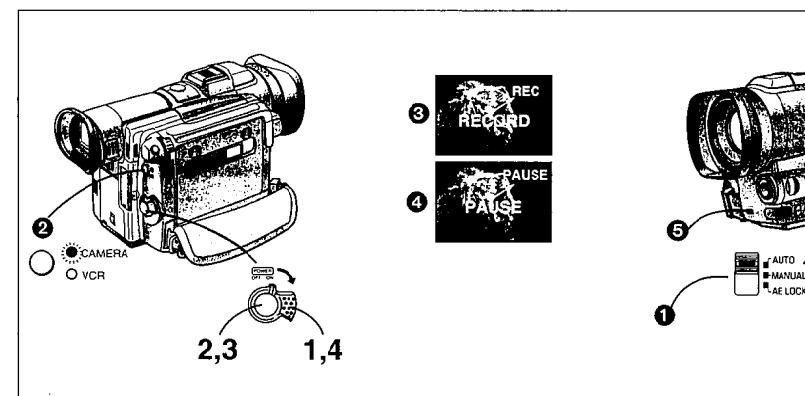
- 2 Open the Grip Belt Cover and adjust the length of the Grip Belt.

Attaching the Shoulder Strap

Before you go recording outside, we recommend that you attach the Shoulder Strap to prevent the Movie Camera from dropping accidentally.

- 3 Pull the end of the Shoulder Strap through the Shoulder Strap Holders on the Movie Camera.
- 4 Fold the end of the Shoulder Strap back and pull it through the Shoulder Strap Length Adjuster.
Pull it out more than 2 cm ① from the Shoulder Strap Length Adjuster so that it cannot slip off.

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Recording

When the Mode Selector is set to [AUTO] ①, you can simply turn on the Movie Camera and press the Start/Stop Button to start recording, and the focus and white balance are adjusted automatically.

- ◆ Depending on the light source and recording situation, correct automatic focusing and white balance adjustment may not be possible. In such cases, adjust them manually.

Focus: (→ 36); White Balance: (→ 82, 84)

- 1 Set the [POWER ON/OFF] Switch to [ON].
The [CAMERA] Lamp lights. ②
- 2 Press the Start/Stop Button.
Recording starts.
The [RECORD] Indication appears briefly and then changes to [REC]. ③

- 3 To pause recording:
Press the Start/Stop Button again.
The [PAUSE] Indication appears. ④

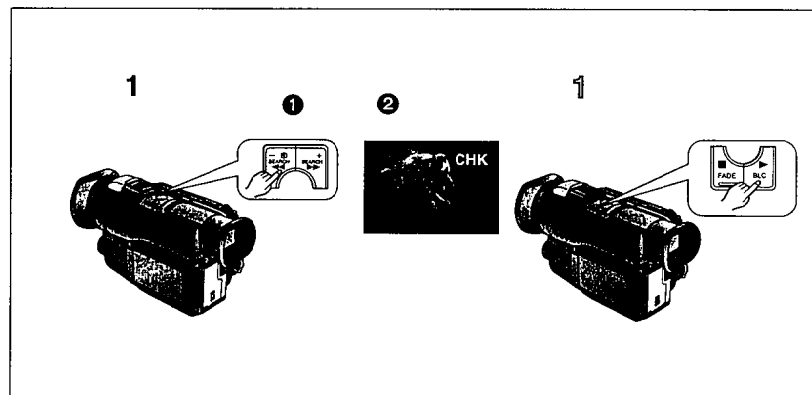
- 4 To finish recording:
Set the [POWER ON/OFF] Switch to [OFF].

- ◆ If you leave the Movie Camera in the Recording Pause Mode for more than 6 minutes, it automatically switches off to protect the tape and to conserve battery power. To resume recording from this condition, set the [POWER ON/OFF] Switch to [OFF] and then to [ON] again.

Recording Lamp

The Recording Lamp ⑥ lights during recording to indicate that recording is being performed.
If you select [NEXT MENU] on the Menu and then set [REC LAMP] to [OFF], the Recording Lamp does not light. (→ 126-130)

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Checking If the Picture Is Recorded (Recording Check)

To play back the final few seconds of the last recorded scene in the Recording Pause Mode.

- 1 Press the Reverse Search Button [◀] briefly in the Recording Pause Mode.

The [CHK] Indication ② appears.
After checking, the Movie Camera returns to the Recording Pause Mode.

- ♦ For Recording Check, the Movie Camera must be in the same mode (SP or LP) as used for recording, otherwise the playback picture is distorted.

Recording Backlit Scenes (Backlight Compensation)

To prevent the backlit subject from being recorded very dark.
(Backlight means that the light falls on the subject from behind, i.e. the subject is between the light source and the Movie Camera.)

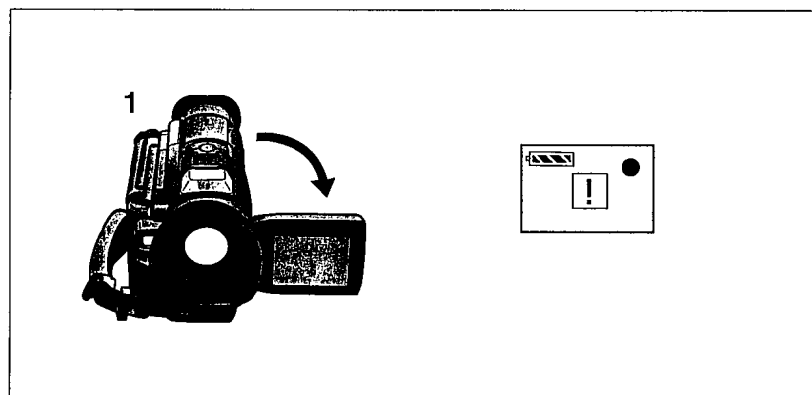
- 1 Keep the Backlight Button [▶] pressed.

The backlight is being compensated as long as you keep the Button pressed, and the subject is recorded more brightly.
(The picture brightens up as a whole.)

Returning to Normal Recording

Release the Backlight Button [▶].

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Recording Yourself (Recording with the LCD Monitor Facing Forward)

To record yourself while viewing the picture on the LCD Monitor or to show the persons in front of the Movie Camera the picture being recorded.

- 1 Open the LCD Monitor and turn it so that it faces forward (lens side).

Opening the LCD Monitor automatically turns off the Finder. However, when you turn the LCD Monitor forward, the picture also appears in the Finder.

This lets you aim the Movie Camera and view the picture in the Finder, while the persons in front of the Movie Camera can check the picture on the LCD Monitor during recording.

Mirror Mode

When recording yourself with the LCD Monitor facing forward, the picture as it is being recorded might look unusual too you. If you prefer seeing yourself on the LCD Monitor the way you see yourself in a mirror, select the Mirror Mode.
Selecting [NEXT MENU] on the Menu and then setting [SELF SHOOT] to [MIRROR] reverses the picture on the LCD Monitor and shows it as a mirror-image.
(→ 126-130)

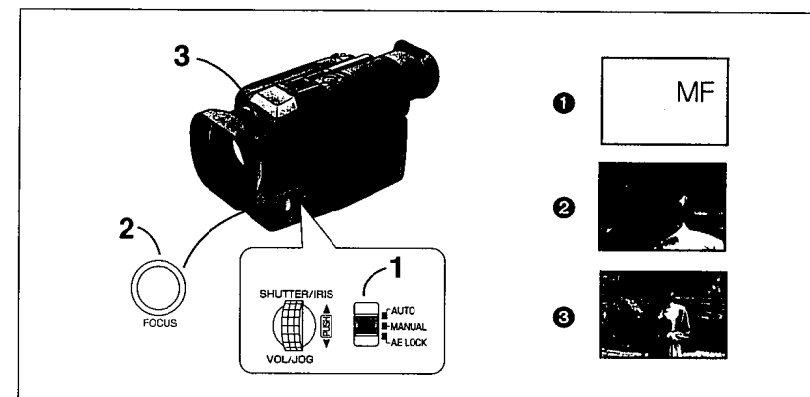
However, even if you have selected the Mirror Mode, the picture is recorded in the normal way.

- ♦ In the Mirror Mode, only the following indications are displayed.

● : Recording
●● : Recording Pause
[] : Remaining Battery Power

When the General Warning/Alarm Indication [!] appears, turn the LCD Monitor backward so that you can confirm the actual Warning/Alarm Indication.

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Manually Focusing on the Subject (Manual Focus)

To adjust the focus manually for subjects and recording situations for which automatic focusing is not precise.

- 1 Set the Mode Selector Switch to [MANUAL].
The [MNL] Indication appears.

- 2 Press the [FOCUS] Button to make the [MF] Indication ① appear.

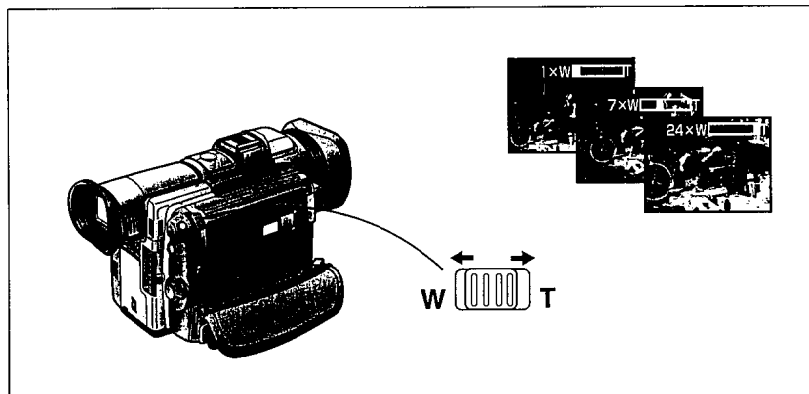
- 3 Turn the Focus Ring on the Lens to adjust the focus.

Changing Back to Automatic Focusing
Keep the [FOCUS] Button pressed until the [MF] Indication disappears.

Hint for Manual Focus Adjustment

- ♦ If you adjust the focus in the wide-angle setting, the subject may go out of focus when you enlarge it. Therefore, enlarge the subject ② before you adjust the focus, so that the picture remains focused when you zoom out ③.

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Enlarging Your Subject or Widening the Recording Angle (Zooming In/Out)

Recording close-ups of your subjects and recording wide-angle shots adds special effects to your videos.

- 1 To record a wider view (Zooming-out): Push the [W/T] Zoom Lever toward [W]. To enlarge your subject (Zooming-in): Push the [W/T] Zoom Lever toward [T].

- The Zoom Magnification Indication appears for a few seconds.
- The farther you push the [W/T] Zoom Lever toward [W] or [T], the faster the zooming speed becomes.
- During recording, the zooming speed is slower than during recording pause.

Enlarging Your Subjects Even More (Digital Zooming)

Selecting one of the two settings for [D.ZOOM] on the Menu makes it possible to farther enlarge the subject. (→ 126, 128)

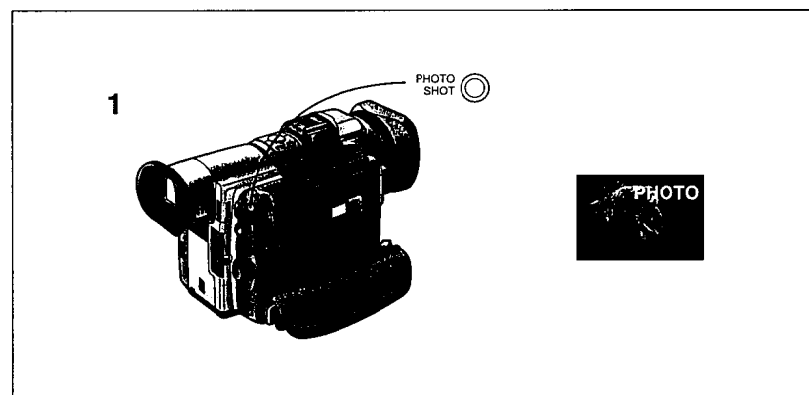
- 24x: Digital zooming up to 24x.
- 120x: Digital zooming up to 120x.
- Up to 12x, the zooming is done optically.
- The higher the Digital Zoom Magnification is, the lower is the picture quality.
- If you set [D.ZOOM] on the Menu to [24x] or [120x], the [D.ZOOM] Indication appears.

Recording Extra Close-up Shots of Small Subjects (Macro Close-up Function)

When the zoom magnification is 1x, the Movie Camera can focus on subjects down to a distance of approximately 30 mm between lens and subject. This allows recording very small subjects such as insects.

- When you have zoomed to the tele setting, precise focussing is only possible on subjects no closer than 1.2 metres.

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Using the Movie Camera as a Digital Still Camera (Photoshot)

With this function, you can record still pictures with sound for approximately 7 seconds each. This function is convenient for example for pictures that you want to print on a Video Printer.

- 1 Press the [PHOTO SHOT] Button. (This function can be used during recording, too.)

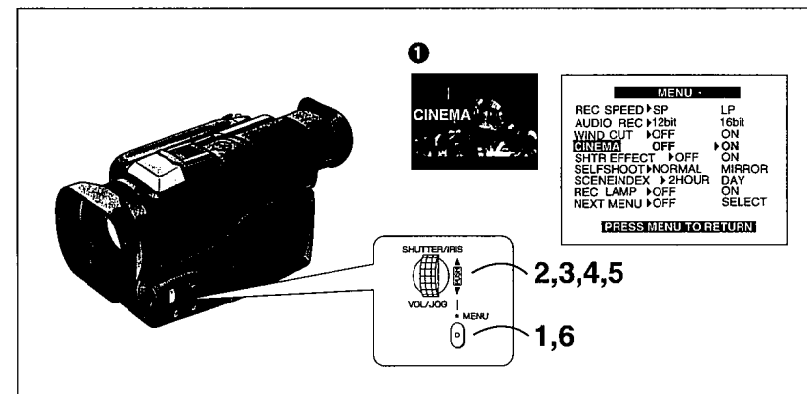
The Movie Camera records a still picture for approximately 7 seconds and then switches over to the Recording Pause Mode.

- The image on the LCD Monitor or in the Finder also stands still. If you select [NEXT MENU] on the Menu and set [SHTR EFFECT] to [ON], the screen blinks briefly

and a simulated shutter click sound can be heard when you press the [PHOTO SHOT] Button.

- With the still pictures that you have recorded in the Photoshot Mode, you can do the following.
 - Index search (→ 62)
 - (However, searching for the picture(s) recorded at the beginning of the tape may not be possible.)
 - Automatic printing (→ 120)
- If you select [NEXT MENU] on the Menu and set [SHTR EFFECT] to [ON], the visual shutter effect and the click sound are also recorded. (There is a slight delay between pressing the [PHOTO SHOT] Button and the actual start of recording. The visual shutter effect and click sound may occur with slight delay after recording of the still picture has started.)
- The picture quality deteriorates slightly.
- Using the Photoshot Function makes the Remaining Tape Time Indication disappear. Resuming normal recording makes the Remaining Tape Time Indication appear again.

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Recording in the Cinema Mode (Cinema Mode)

This mode lets you record in the cinema-like wide-screen format.

- 1 Press the [MENU] Button. The Menu appears.
- 2 Turn the [PUSH] Dial to select [NEXT MENU].
- 3 Press the [PUSH] Dial to select [SELECT].

- 4 Turn the [PUSH] Dial to select [CINEMA].

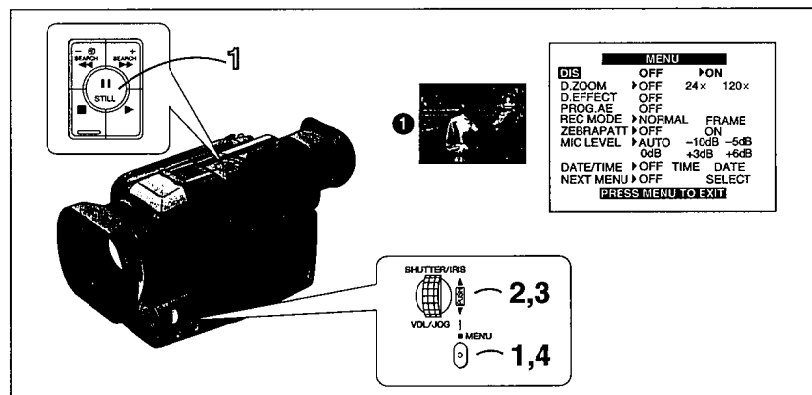
- 5 Press the [PUSH] Dial to select [ON].

- 6 Press the [MENU] Button twice to exit the Menu.

- In the Cinema Mode, black bars appear at the top and bottom of the LCD Monitor and the Finder screen. ①

Cancelling the Cinema Mode
Set [CINEMA] on the Menu to [OFF].

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Recording with Minimised Camera Shake (Digital Image Stabilizer)

In recording situations where shaking of the Movie Camera is likely to happen, for example when you have zoomed in on a distant subject or when you record while walking, you can use this function to stabilize the image.

- ◆ In case of very strong camera shake, it may not be possible to stabilize the picture.

- 1 Press the [MENU] Button.
The Menu appears.
- 2 Turn the [PUSH] Dial to select [DIS].
- 3 Press the [PUSH] Dial to select [ON].
- 4 Press the [MENU] Button to exit the Menu.
The [DIS] Indication ① appears.

- ◆ In a dimly lit place, the Digital Image Stabilizer Function may not work. In this case, the [DIS] Indication flashes.
- ◆ Under fluorescent lamps, the picture brightness may fluctuate and the colours may be unnatural.
- ◆ The picture quality may deteriorate slightly.
- ◆ The subject becomes slightly enlarged.
- ◆ When you use a tripod, we recommend that you set [DIS] to [OFF].

Cancelling the Digital Image Stabilizer Function
Set [DIS] on the Menu to [OFF].

Recording Still Pictures

You can record still pictures of any desired length together with sound either in the middle of a normal recording or from the Recording Pause Mode.

- 1 Press the Still Button [II].

Cancelling the Still Picture Recording Mode
Press the Still Button [II] again.

Viewing the Just Recorded Scenes on the Movie Camera (Playback)

You can play back recorded scenes right after recording.

- 1 Press the [VCR/CAMERA] Button so that the [VCR] Lamp ① lights.
- 2 Press the Rewind Button [◀◀] to rewind the tape.
 - Rewind the tape to the point where the recording started.
 - If the tape reaches the beginning, rewinding automatically stops.
- 3 Press the Play Button [▶] to start playback.
- 4 To stop playback:
Press the Stop Button [■].

Adjusting the Sound Volume

Keep the [PUSH] Dial ② pressed until the [VOLUME] Indication ③ appears. Then, turn the [PUSH] Dial to adjust the volume.

To make the [VOLUME] Indication disappear, press the [PUSH] Dial again until the [VOLUME] Indication has disappeared.

Making the Date/Time Indication Appear

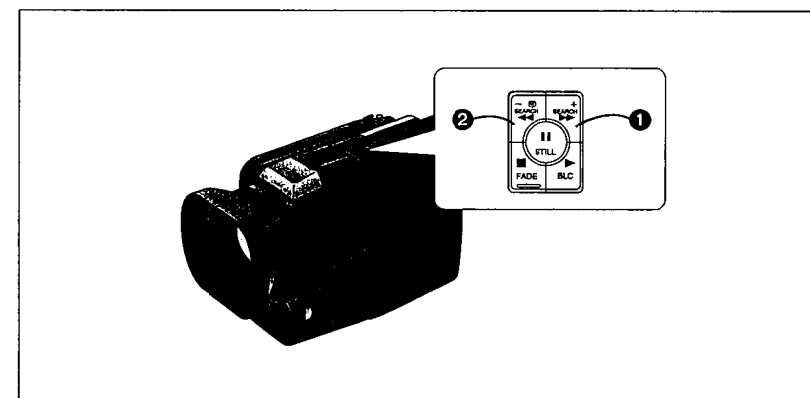
This Movie Camera automatically records the date and time, however not directly in the picture but as part of the sub code (→ 152).

To make the Date/Time Indication appear, set [DATE/TIME] on the Menu to the desired setting.

Using the Support Leg for Easy-to-View Playback

Extending the Support Leg ④ from the underside of the Movie Camera makes it easier to view the playback picture on the LCD Monitor.

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Searching for a Scene You Want to Play Back

Cue Playback

Keep the Cue Button [▶▶] ① pressed during playback.

Review Playback

Keep the Review Button [◀◀] ② pressed during playback.

Search Lock Function

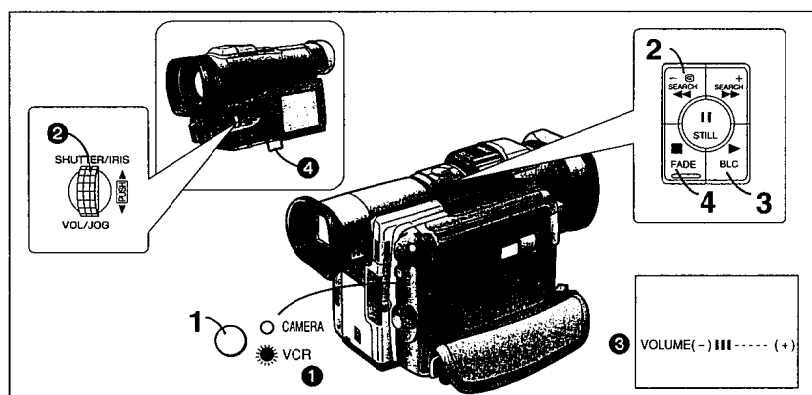
For longer Cue or Review Playback, press the Cue Button [▶▶] or the Review Button [◀◀] only briefly. As this locks the search function, you do not need to keep the button pressed for a long time.

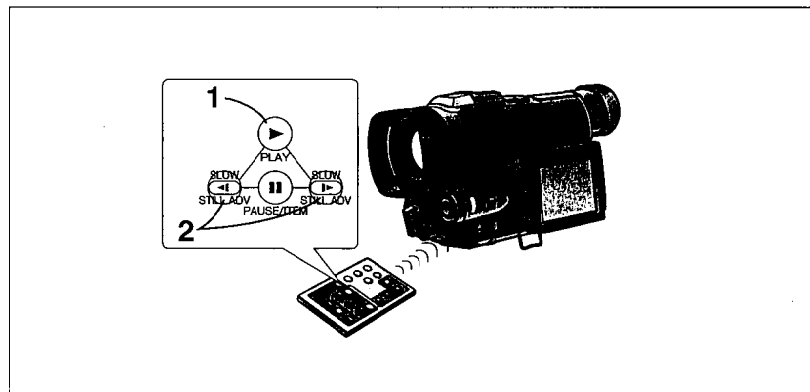
- To resume normal playback, press the Play Button [▶].
- In Cue and Review Playback, pictures with fast-moving subjects may contain mosaic-like patterns.

Hyper Check Function

- If you press the Fast-forward Button [▶▶▶] during fast-forwarding of the tape or the Rewind Button [◀◀] during rewinding of the tape, Cue Playback or Review Playback continues for as long as you keep the Button pressed.
- Before and after activating Cue Playback or Review Playback, the picture may momentarily be distorted.

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Playing Back in Slow Motion (Slow Motion Playback)

- 1 Press the Play Button [▶].
- 2 Press the Slow Motion/Still Advance Button [◀] or [▶] on the Remote Controller.

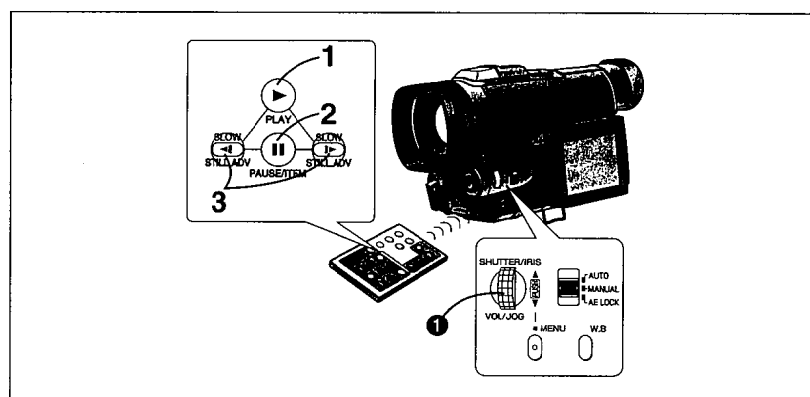
Pressing the [◀] Button starts slow motion playback in reverse direction, and pressing the [▶] Button starts slow motion playback in forward direction.

Scenes recorded in the SP Mode are played back at approximately 1/5th of the normal speed.
Scenes recorded in the LP Mode are played back at approximately 1/3rd of the normal speed.

Resuming Normal Playback

Press the Play Button [▶].
Playback continues with normal speed.

- During slow motion playback in reverse direction, the Time Code Indication may not be accurate.



Playing Back Still Pictures and Advancing Them One by One (Still Playback/Still Advance Playback)

You can freeze the action during playback and advance the still pictures one by one.

- 1 Press the Play Button [▶].
- 2 Press the Pause Button [II].
The playback picture stops in the Still Playback Mode.
- 3 Press the Slow Motion/Still Advance Button [◀] or [▶] on the Remote Controller.
Pressing the [◀] Button advances the still picture frame by frame in reverse direction. Pressing the [▶] Button advances the still picture frame by frame in forward direction.

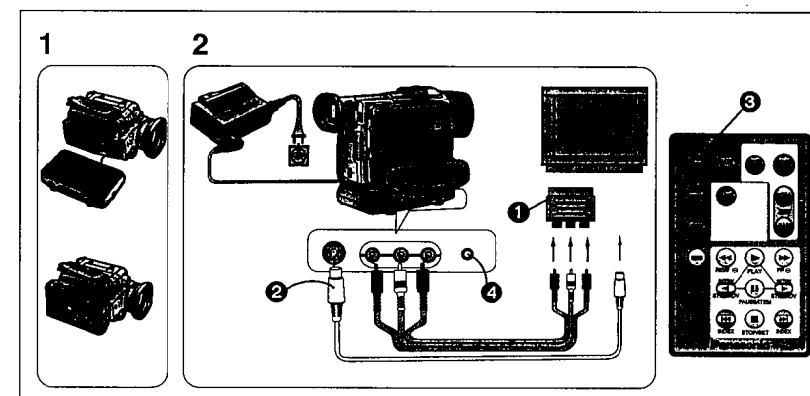
Resuming Normal Playback

Press the Play Button [▶].
Playback continues with normal speed.

- If you keep the [▶] Button on the Remote Controller pressed for more than 1 second during Still Advance Playback, the Movie Camera switches over to the Slow Motion Playback Mode with slower speed than in the normal Slow Motion Playback Mode.
- If you leave the Movie Camera in the Still Playback Mode for more than 6 minutes, it switches over to the Stop Mode to protect the video heads against excessive wear.
- During Still Advance Playback, the Time Code Indication may not be accurate.

Using the Jog Dial (Jog Playback)

By turning the Jog Dial ([PUSH] Dial) ① on the Movie Camera in the Still Playback Mode, you can advance the still pictures one by one in forward or reverse direction.



Playing Back on a TV (With the Output Terminal Box [AV ONE TOUCH STATION] Attached)

Attaching the Output Terminal Box [AV ONE TOUCH STATION] to the Movie Camera makes it possible to playback recorded scenes on a TV.

- 1 Attach the Output Terminal Box [AV ONE TOUCH STATION].
(→ 110)
- 2 Connect the Video and Audio Output Sockets to the Video and Audio Input Sockets on the TV.
Use the AV Cable and 21-pin Adaptor ① to connect to the TV. If your TV is equipped with an S-Video Socket, also connect the S-Video Cable ②.

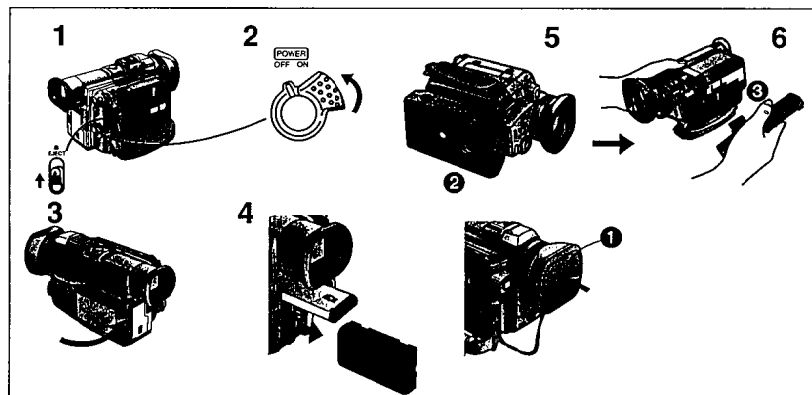
- Before connecting, turn off both the Movie Camera and the TV.
- If a cassette recorded with copyright protection signal is played back, the screen becomes black. However, scenes recorded with this Movie Camera do not contain a copyright protection signal.

Making the Indications Appear on the TV Screen

Press the [OSD] Button ③ on the Remote Controller. The On-Screen Indications also appear on the TV screen.

Playing Back the Sound via Headphones

Using the [PHONE] Socket ④ on the Output Terminal Box [AV ONE TOUCH STATION] lets you listen to the playback sound via headphones.
Even if the sound is played back via headphones, the sound from the Movie Camera's built-in speaker can also be heard. If you want to mute the sound from the speaker, lower the volume (→ 46).



After Use

- 1 Take out the cassette. (→ 22)
- 2 Set the [POWER ON/OFF] Switch to [OFF].
- 3 Retract the Finder and close the LCD Monitor.
- 4 Take out the Battery. (→ 18)

Attaching the Lens Cap

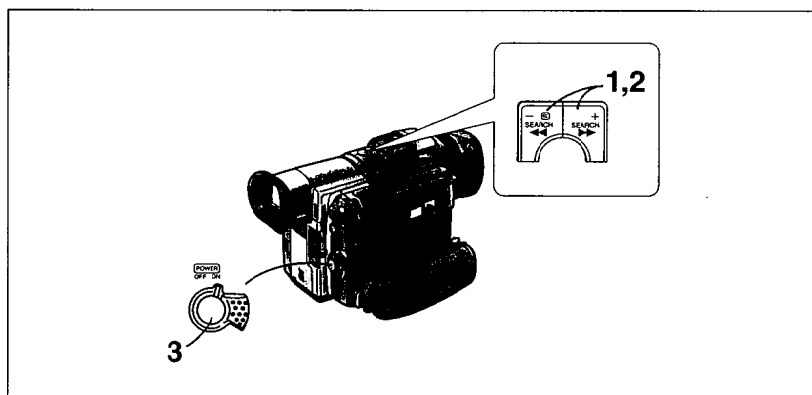
After use, attach the supplied Lens Cap to the Lens to protect it.

Removing the Output Terminal Box [AV ONE TOUCH STATION]

If the Output Terminal Box [AV ONE TOUCH STATION] is attached to the Movie Camera, remove it in the following way:

- 5 Turn the Locking Handle in the direction of the arrow.
- 6 Pull off the Output Terminal Box [AV ONE TOUCH STATION] in the direction of the arrow.

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Viewing Recorded Scenes During Recording Pause (Camera Search)

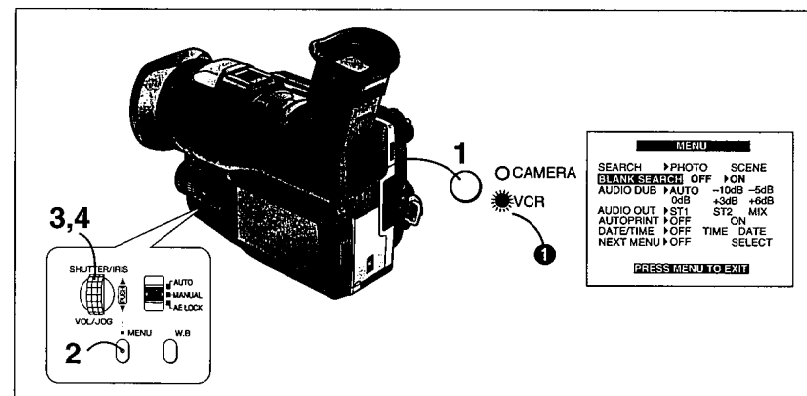
You can view recorded scenes when the Movie Camera is in the Recording Pause Mode. The Camera Search Function is convenient to search for a scene from which you want to start recording a new scene with smooth scene-to-scene transition.

- 1 Keep the Reverse Search Button [◀◀] or the Forward Search Button [▶▶] pressed for more than 1 second. Pressing the [◀◀] Button plays back the picture in reverse direction. Pressing the [▶▶] Button plays back the picture in forward direction.

Starting to Record from the Desired Position

- 2 Release the pressed Search Button. The Movie Camera is in the Recording Pause Mode.
 - 3 Press the Start/Stop Button to start recording. The Movie Camera starts recording a new scene with smooth scene-to-scene transition.
- In the Camera Search Mode, the picture may contain mosaic-like patterns. However, this is a phenomenon particular to digital video and completely normal.
 - If the Recording Speed Mode (SP/LP) of the previous and the new recording are different, the playback picture may be distorted.

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Searching for the End of the Recorded Part on a Cassette (Blank Search)

With the Blank Search Function you can quickly locate the end of the recorded part on a cassette (or a blank part between recordings).

- 1 Press the [VCR/CAMERA] Button so that the [VCR] Lamp lights.
- 2 Press the [MENU] Button. The Menu appears.

- 3 Turn the [PUSH] Dial to select [BLANK SEARCH].
- 4 Press the [PUSH] Dial to select [ON]. Approximately 1 second before the end of the last recorded scene, the Movie Camera switches over to the Still Playback Mode.

- If there is no blank part on a cassette, the Movie Camera stops at the end of the tape.
- When the Blank Search has finished, you can press the [VCR/CAMERA] Button so that the [CAMERA] Lamp lights, and then start recording. The new scene is recorded with a smooth transition from the last to the new scene.

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Searching for the Beginning of Recorded Scenes Marked with Index Signal (Index Search)

Index Search

To allow easy searching for desired scenes, this Movie Camera automatically records index signals during recording as follows:

1 Photoshot Index Signal

To search for still pictures recorded in the Photoshot Mode (→ 40) and to use for automatic printing (→ 120).

A photoshot index signal is automatically recorded every time you record a still picture in the Photoshot Mode.

2 Scene Index Signal

To search for the beginning of recorded scenes.

A scene index signal is automatically recorded in the following cases:

- When you start recording after inserting a cassette.
- Depending on the setting of [SCENEINDEX] on the Menu (→ 126-130):

[2HOUR]: An index signal is recorded when recording is restarted after a lapse of more than 2 hours.

[DAY]: An index signal is recorded when recording is restarted after the date has changed since the last recording.

(While an index signal is being recorded, the [INDEX] Indication flashes for a few seconds.)

Searching for Photoshot Pictures (Photoshot Index Search)

- Press the [VCR/CAMERA] Button on the Movie Camera so that the [VCR] Lamp lights.

- Set [SEARCH] on the Menu to [PHOTO]. (→ 126, 132) (The initial setting is [PHOTO].)

Photoshot Index Search In Forward Direction

Press the Index Button [▶▶] 1 on the Remote Controller.

Photoshot Index Search in Reverse Direction

Press the Index Button [◀◀] 2 on the Remote Controller.

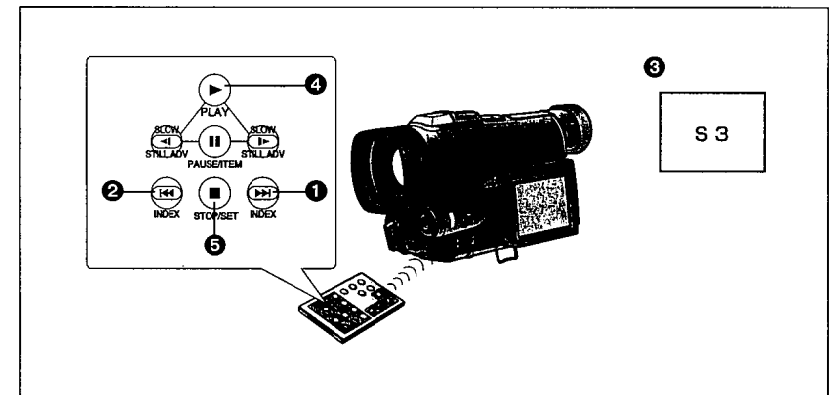
- At every press of the corresponding button, the tape is fast-forwarded or rewound to the next still picture recorded in the Photoshot Mode.

After reaching the next still picture, the still picture is played back continually together with the sound (only for approximately 4 seconds). (If you leave the Movie Camera in the Still Playback Mode for more than 6 minutes, it switches over to the Stop Mode to protect the video heads against excessive wear.)

- The Photoshot Index Search may not work correctly for still pictures recorded near the beginning of the tape.
- If you keep the [◀◀] or [▶▶] Button pressed for more than 2 seconds, the Intro Search Function is activated and it plays back all still pictures recorded in the Photoshot Mode on the cassette one after another for a few seconds each.

(To cancel the Intro Search Function, press the Play Button [▶] 3 or the Stop Button [■] 4.)

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Searching for the Beginning of Recorded Scenes (Scene Index Search)

- Press the [VCR/CAMERA] Button on the Movie Camera so that the [VCR] Lamp lights.
- Set [SEARCH] on the Menu to [SCENE]. (→ 126, 132)

Scene Index Search in Forward Direction

Press the Index Button [▶▶] 1 on the Remote Controller.

Scene Index Search in Reverse Direction

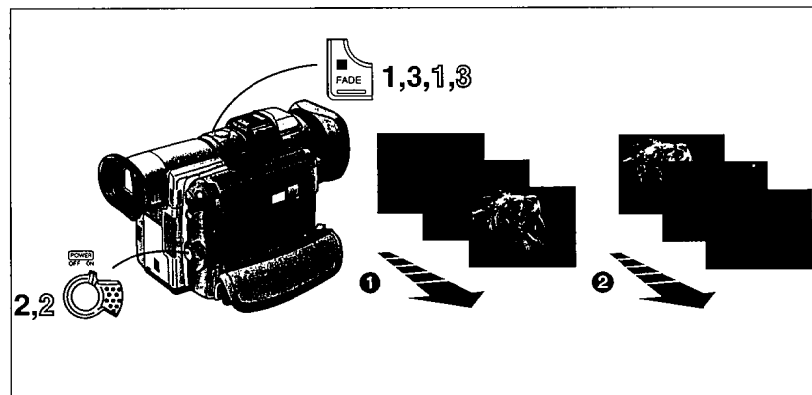
Press the Index Button [◀◀] 2 on the Remote Controller.

- When you briefly press the corresponding button once, the [S1] Indication appears and the search for the next scene marked with an index signal starts. After the Scene Index Search has started, every time you press the button, the indication changes successively from

[S2] to [S9], and the beginning of the scene corresponding to the selected number is located. 3 After reaching the desired scene, playback starts automatically. (At a time, Scene Index Search in forward or reverse direction is possible up to the ninth scene marked with index signal from the present tape position.)

- If the distance between two scene index signals is less than 1 minute, the Scene Index Search may not work correctly.
 - The Scene Index Search may not work correctly for scenes recorded near the beginning of the tape.
 - If you keep the [◀◀] or [▶▶] Button pressed for more than 2 seconds, the Intro Search Function is activated and it plays back the beginning of all scenes marked with an index signal on the cassette one after another for a few seconds each.
- (To cancel the Intro Search Function, press the Play Button [▶] 3 or the Stop Button [■] 4.)

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Fading In/Out

Fading In ①

Fading-in lets you make the picture and sound appear gradually from a black screen at the beginning of a scene.

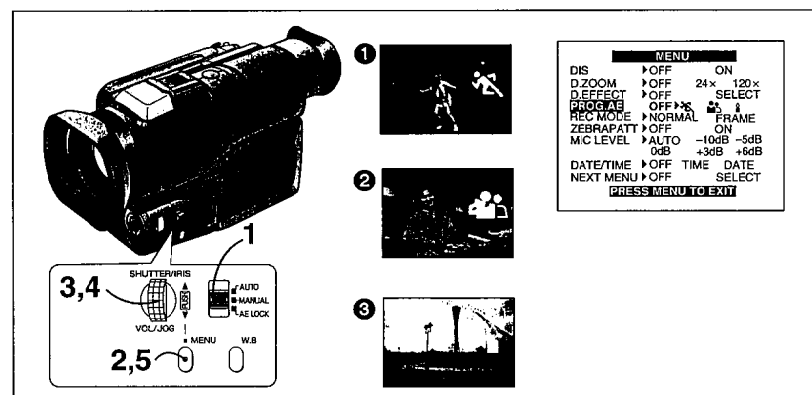
- 1 With the Movie Camera in the Recording Pause Mode, keep the Fade Button [■] pressed.
The picture gradually disappears.
- 2 When the picture has completely disappeared, press the Start/Stop Button to start recording.
- 3 Approximately 3 seconds after the recording has started, release the Fade Button [■].
The picture gradually appears again.

Fading Out ②

Fading-out lets you make the picture and sound disappear gradually into a black screen at the end of a scene.

- 1 During recording, keep the Fade Button [■] pressed.
The picture gradually disappears.
- 2 After the picture has completely disappeared, press the Start/Stop Button to stop recording.
The Movie Camera is in the Recording Pause Mode.
- 3 Release the Fade Button [■].

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Recording In Various Situations (Programme AE)

This function lets you select Automatic Exposure settings optimized for special recording situation.

- 1 Set the Mode Selector Switch to [MANUAL].
The [MNL] Indication appears.
- 2 Press the [MENU] Button.
The Menu appears.
- 3 Turn the [PUSH] Dial to select [PROG.AE].
- 4 Press the [PUSH] Dial to select the desired mode ([⚡], [👤] or [🌙]).
If you have adjusted the shutter speed (→ 86) or the iris (→ 88), it is not possible to select a Programme AE Mode.

5 Press the [MENU] Button to exit the Menu.

The indication of the selected mode appears.

[⚡] Sports Mode ①

To record scenes with fast-moving subjects such as sports scenes.

[👤] Portrait Mode ②

To make subjects stand out sharply from the background.

[🌙] Low Light Mode ③

To record dark scenes more brightly.

Cancelling the Programme AE Function
Set [PROG.AE] on the Menu to [OFF].

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Sports Mode

- When playing back scenes recorded in the Sports Mode, you can enjoy slow motion and still playback of very sharp images with fine details.
- Avoid recording under fluorescent, mercury-vapour or sodium lamps in this mode as the colour and the brightness of the playback picture might fluctuate.
- When recording subjects lit by strong lights or with much light reflection, the playback picture may contain vertical streaks of light.
- When the scene is not sufficiently lit, the [⚡] Indication flashes.
- When using this mode for recording indoors, the playback picture may flicker.
- It is not possible to select the Sports Mode [⚡] together with the Gain-up Mode [GAINUP] on the [MENU (D.EFFECT)] Menu.

Portrait Mode

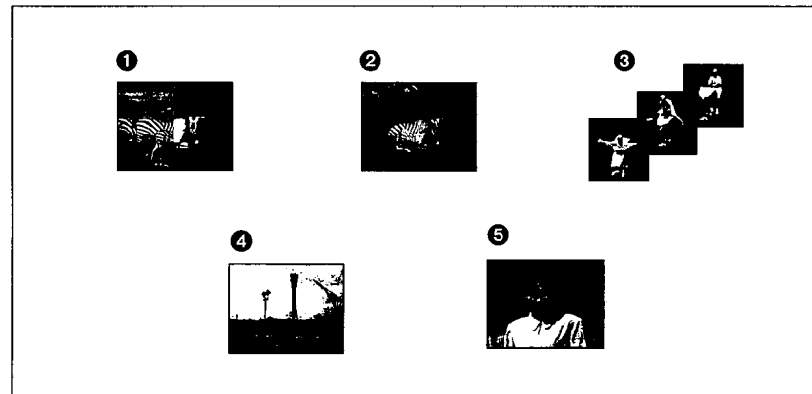
- When using this mode for recording indoors, the playback picture may flicker.
- It is not possible to select the Portrait Mode [👤] together with the Gain-up Mode [GAINUP] on the [MENU (D.EFFECT)] Menu.

Low Light Mode

- It may not be possible to sufficiently brighten up extremely dark scenes.

- If you have adjusted the shutter speed (→ 86) or the iris (→ 88), it is not possible to select a Programme AE Mode ([⚡], [👤] or [🌙]).

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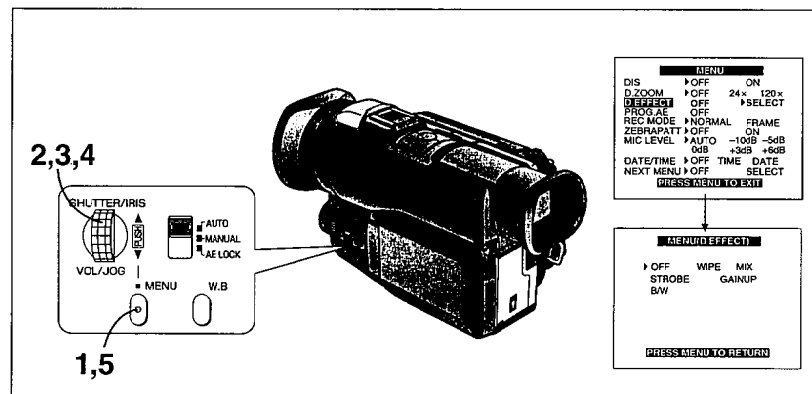
Recording with Special Effects (Digital Effects)

There are 5 different modes available for adding special digital picture effects.

- 1 Wipe Mode [WIPE]**
It gradually replaces a picture of the last recorded scene with the picture of the new scene, like drawing a curtain. For details, (→ 78).
- 2 Mix Mode [MIX]**
It gradually fades out the picture of the last recorded scene while fading in the picture of the new scene. For details, (→ 80).
- 3 Strobe Mode [STROBE]**
It records the pictures with a stroboscope-like effect.

- 4 Gain-up Mode [GAINUP]**
It electronically brightens up the picture.
 - In this mode, adjust the focus manually.
 - Some After-image distortion may occur during recording with the Gain-up Function.
- 5 Monotone Mode [B/W]**
The picture is recorded in black and white.
 - The Digital Effects cannot be used when the Digital Image Stabilizer Function or the Digital Zoom Function is activated, or when [REC MODE] on the Menu is set to [FRAME].
 When you want to use a digital effect, make sure that [D.ZOOM] and [DIS] on the Menu are set to [OFF] and that [REC MODE] is set to [NORMAL].

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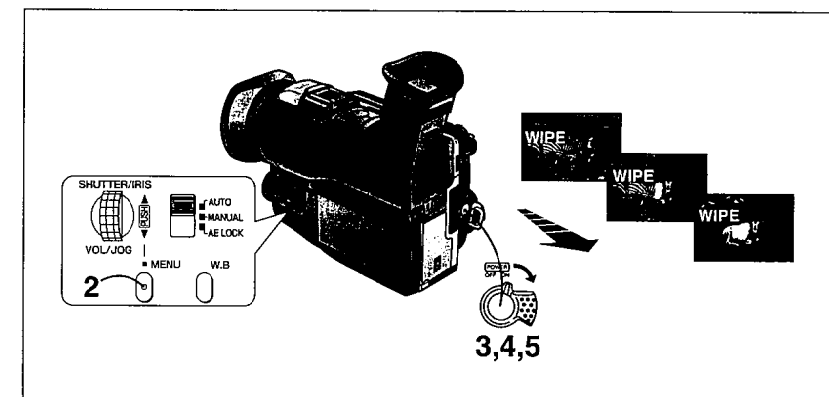
Recording with Special Effects (Digital Effects) (Continued)

Selecting the Desired Digital Effect

- 1 Press the [MENU] Button.**
The Menu appears.
- 2 Turn the [PUSH] Dial to select [D.EFFECT].**
 - The Digital Effects cannot be used when the Digital Image Stabilizer Function or the Digital Zoom Function is activated, or when [REC MODE] on the Menu is set to [FRAME].
 When you want to use a digital effect, make sure that [D.ZOOM] and [DIS] on the Menu are set to [OFF] and that [REC MODE] is set to [NORMAL].
- 3 Press the [PUSH] Dial to select [SELECT].**
The [MENU (D.EFFECT)] Menu appears.
- 4 Press the [PUSH] Dial to select the desired digital effect.**
- 5 Press the [MENU] Button twice to exit the Menu.**
 - The picture has the selected digital effect now. However, the effect of the Wipe Function and the Mix Function only become visible when actually recording in the respective mode. (→ 78, 80)
 - If you have selected [GAINUP] on the [MENU (D.EFFECT)] Menu, it is not possible to select the Manual White Balance Mode.
 - If you have adjusted the shutter speed (→ 86) or the iris (→ 88), it is not possible to select [GAINUP] on the [MENU (D.EFFECT)] Menu.
 - It is not possible to select the Sports Mode [S.] or the Portrait Mode [P.] together with the Gain-up Mode [GAINUP] on the [MENU (D.EFFECT)] Menu.

Cancelling the Digital Effect
Set [D.EFFECT] on the Menu to [OFF].

-76-



Recording with Special Effects (Digital Effects) (Continued)

Wipe Mode

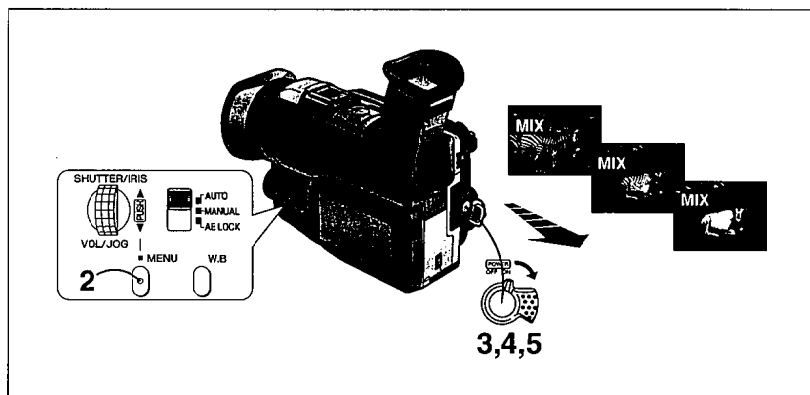
It gradually replaces a still picture of the last recorded scene with the moving picture of the new scene, like drawing a curtain.

After performing steps 1-3 on page 76:

- 1 Select [WIPE] on the [MENU (D.EFFECT)] Menu. (→ 76)**
- 2 Press the [MENU] Button twice to exit the Menu.**
The [WIPE] indication appears.

- 3 Press the Start/Stop Button to start recording.**
The normal recording starts.
- 4 Press the Start/Stop Button to pause recording.**
The last picture is stored in memory.
- 5 Press the Start/Stop Button to start recording again.**
The last picture of the previous scene is gradually replaced by the new scene.

-78-



Recording with Special Effects (Digital Effects) (Continued)

■ Mix Mode

It gradually fades out a still picture of the last recorded scene while fading in the moving picture of the new scene.

After performing steps 1-3 on page 76:

- 1 Select [MIX] on the [MENU (D.EFFECT)] Menu. (→ 76)
- 2 Press the [MENU] Button twice to exit the Menu.

The [MIX] Indication appears.

- 3 Press the Start/Stop Button to start recording.
The normal recording starts.
- 4 Press the Start/Stop Button to pause recording.
The last picture is stored in memory.
- 5 Press the Start/Stop Button to start recording again.
The last picture gradually fades out while the new scene fades in.

Recording with Natural Colours (White Balance)

This Movie Camera automatically adjusts the white balance to ensure that the pictures are recorded with natural colours. For certain types of subjects and lighting conditions, however, this Auto White Balance Adjustment Mode may not be able to ensure natural colours (→ 158, 160). In these cases, adjust the white balance manually.

- 1 Set the Mode Selector Switch to [MANUAL].

The [MNL] Indication appears.

- 2 Press the [W.B.] Button.

Repeatedly press the [W.B.] Button to select the desired White Balance Mode.

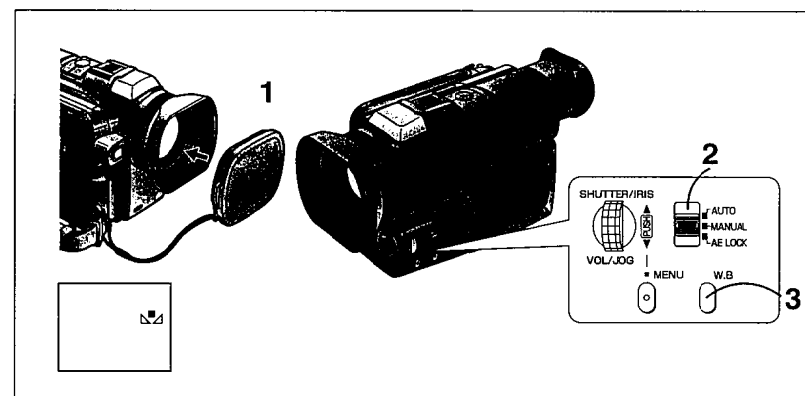
The modes change in the following order:

- 1 Indoor (Incandescent Lamp) Mode (☼)
- 2 Outdoor Mode (☼)
- 3 Lock Mode (🔒)

- If you select [GAINUP] on the [MENU (D.EFFECT)] Menu, you cannot select or change the White Balance Mode.

Returning to the Auto White Balance Adjustment Mode

Set the Mode Selector Switch to [AUTO].



Adjusting the White Balance Manually

Use the Manual White Balance Adjustment Mode for all types of lighting outside the range 1 (→ 160), as the Auto White Balance Adjustment Mode can only ensure natural colours for the types of lighting within that range. For optimum results under almost any types of lighting, we recommend that you adjust the white balance manually for each new scene.

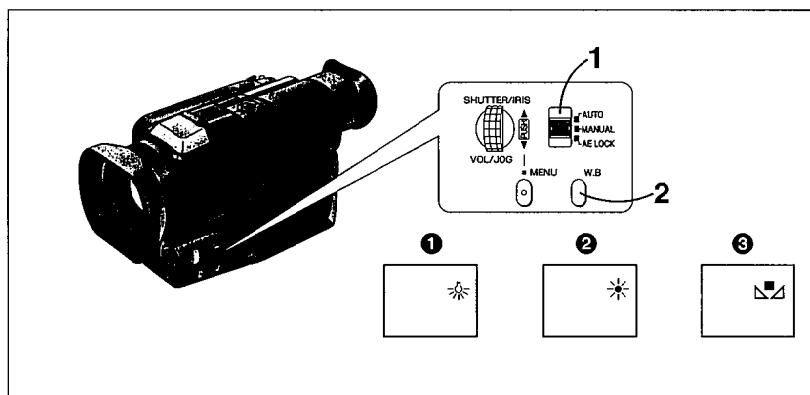
- 1 Attach the Lens Cap and zoom in until the entire screen becomes white.
- 2 Set the Mode Selector Switch to [MANUAL].
The [MNL] Indication appears.

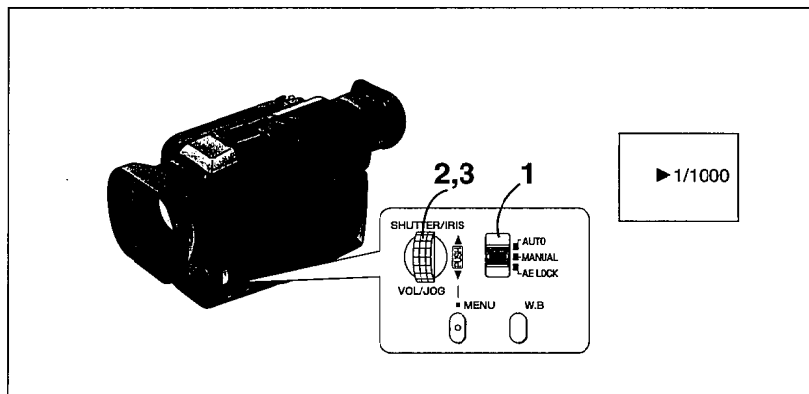
- 3 Keep the [W.B.] Button pressed until the [🔒] Indication stops flashing and remains lit.

- The Manual White Balance Adjustment is now finished. If you want to use this setting again later on, for example after having used Automatic White Balance Adjustment, you can recall it by pressing the [W.B.] Button 3 times. (In this case, the [🔒] Indication flashes.)
- When the [🔒] Indication remains flashing under weak illumination, the Manual White Balance Adjustment can not be set manually.

Returning to the Auto White Balance Adjustment Mode

Set the Mode Selector Switch to [AUTO].





Adjusting the Shutter Speed Manually

To achieve special creative effects or to cope with special lighting situations or fast-action scenes, you can adjust the shutter manually.

1 Set the Mode Selector Switch to [MANUAL].

The [MNL] indication appears.

2 Press the [PUSH] Dial.

If you have adjusted the shutter speed, it is not possible to select a Programme AE Mode ([P], [S], [A], or [G]) or the Gain-up Mode [GAINUP] on the [MENU (D.EFFECT)] Menu.

3 Turn the [PUSH] Dial to adjust the shutter speed.

Range of Shutter Speed Adjustment

1/50 – 1/8000 s

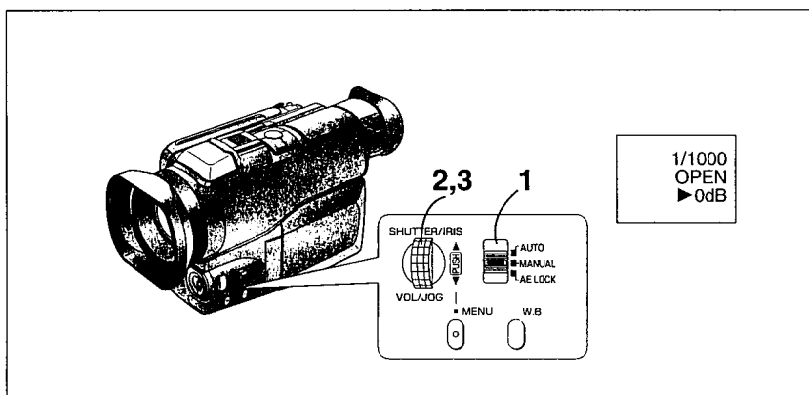
The standard shutter speed is 1/50 s.

The nearer to [1/8000] a setting you select, the faster the shutter speed becomes.

Returning to the Normal Shutter Speed

Set the Mode Selector Switch to [AUTO].

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Adjusting the Iris (F Number) Manually

To achieve special creative effects or to cope with special lighting situations or fast-action scenes, you can adjust the iris (F number) manually.

1 Set the Mode Selector Switch to [MANUAL].

The [MNL] indication appears.

2 Press the [PUSH] Dial twice.

The [F] indication appears.

3 Turn the [PUSH] Dial to adjust the iris.

Range of Iris Adjustment

CLOSE (Closed) → F16.0...F1.7 → OPEN (Opened)

+0dB...+18dB

The nearer to [CLOSE] a value you select, the darker the picture becomes.

The nearer to [OPEN] a value you select, the brighter the picture becomes.

The figures with +dB show the Gain-up value. If you increase the value too much, the picture quality deteriorates.

Returning to the Normal Iris Value (F Number)

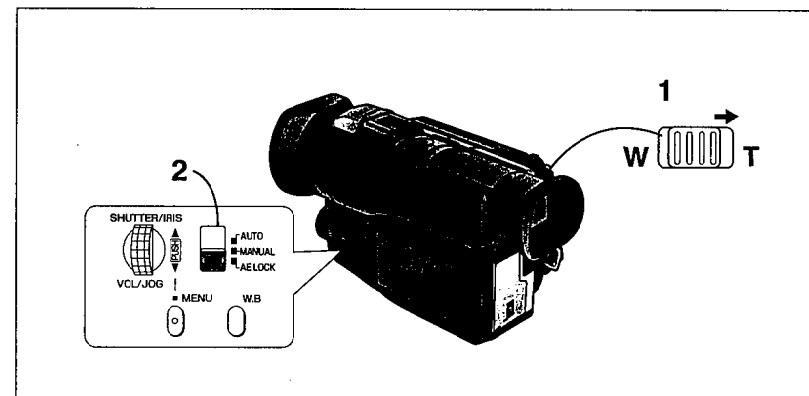
Set the Mode Selector Switch to [AUTO].

♦ Manually adjusting the shutter speed (→ 86) after performing manual iris adjustment changes the iris back to automatic adjustment.

Therefore, if you want to adjust both the shutter speed and iris manually, be sure to adjust the shutter speed first.

♦ If you have adjusted the iris, it is not possible to select a Programme AE Mode ([P], [S], [A], or [G]) or the Gain-up Mode [GAINUP] on the [MENU (D.EFFECT)] Menu.

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Recording with Fixed Brightness (AE Lock)

The AE Lock Function lets you record a subject with the same brightness even when the lighting conditions change greatly. For example, when you record a person who moves from a bright to a dark place, or vice versa, this function prevents the person's face from becoming brighter or darker.

1 Push the [W/T] Zoom Lever toward [T] to zoom in on the subject.

2 Set the Mode Selector Switch to [AE LOCK].

The [AE LOCK] indication appears.

The brightness of the picture is now locked to the value it had at the moment of setting the switch to [AE LOCK].

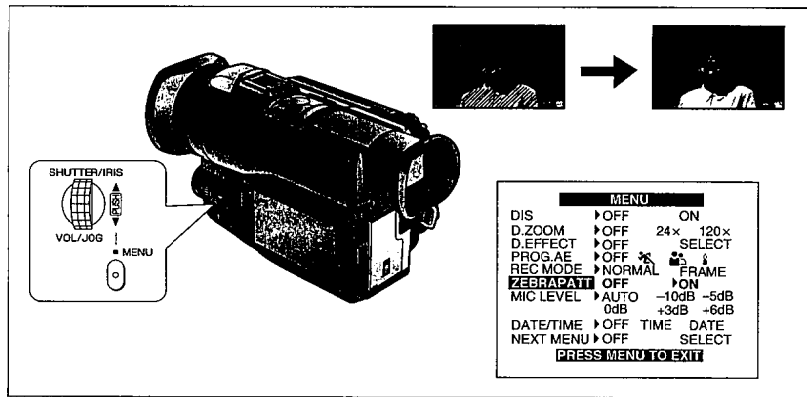
Cancelling the AE Lock Function

Set the Mode Selector Switch to [AUTO] or [MANUAL].

Locking the Brightness at a Desired Level

After Step 1 above, set the Mode Selector Switch to [MANUAL] to adjust the brightness manually (→ 86, 88) and then set the Mode Selector Switch to [AE LOCK].

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Other Convenient Functions

Zebra Pattern

Using the Zebra Pattern makes it easy to adjust the brightness of the picture to an optimum level, even before you start recording.

If you set [ZEBRAPATT] on the Menu to [ON], diagonal white bands (Zebra Pattern) appear on the LCD Monitor or in the Finder on parts of the picture which are overexposed (extremely brightly lit and shiny subjects).

To prevent recording of overexposed, whitish pictures, manually adjust the shutter speed (→ 86) and/or iris/gain (→ 88) so that the Zebra Pattern disappears.

However, when recording a person wearing a white shirt, adjust so that the Zebra Pattern over the face just disappears but remains distinctly over the white shirt. If it disappears over the white shirt, the picture becomes too dark.

Of course, the Zebra Pattern is not recorded onto the tape.

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Other Convenient Functions

(Continued)

Recording Mode

If you set [REC MODE] on the Menu to [FRAME] for recording (→ 126, 128), the still picture can be played back with increased clarity.

NORMAL: Select this mode for normal recording. As the pictures are recorded as frames, their vertical resolution is 50% higher than in normal recording. However, fast movements in the picture become somewhat jerky. Use this mode for recording still pictures that you want to print or import into computer applications.

♦ If you set [REC MODE] to [FRAME], it is not possible to use a digital effect. (→ 74)

Microphone Sensitivity Level

You can adjust the microphone sensitivity for recording and audio dubbing by selecting a desired setting for [MIC

LEVEL] on the Camera Mode Menu (→ 128) or for [AUDIO DUB] on the VCR Mode Menu (→ 132).

AUTO: To record with automatically adjusted optimum level.

-10dB: To record with reduced volume.

-5dB: To record with slightly reduced volume.

0dB: To record the sound with default sensitivity. Loud sounds may become distorted.

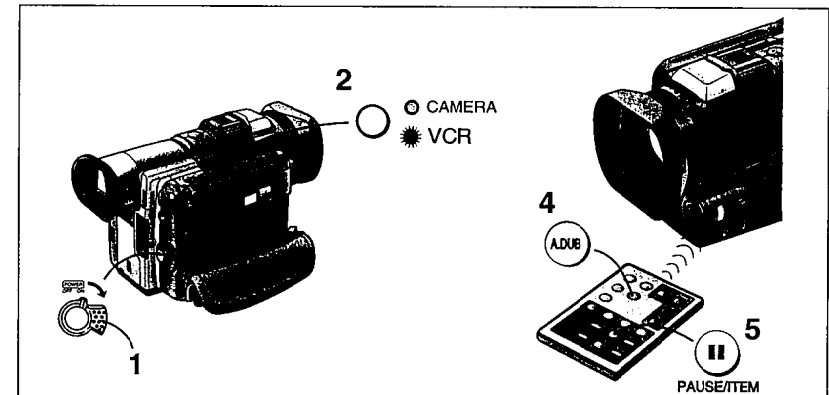
+3dB: To record with slightly increased volume.

+6dB: To record with increased volume.

♦ When you set [MIC LEVEL] to any other setting than [AUTO], the Microphone Sensitivity Level Indication, for example [MIC +6dB], may be displayed in red to warn that the sound being recorded is distorted. In this case, select a lower setting for [MIC LEVEL] or set [MIC LEVEL] to [AUTO].

When recording in the Mirror Mode, the [M] Indication is displayed in red. (However, if you have set [DISPLAY] on the Menu to [OFF], the [M] indication does not appear.)

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Adding New Sound on a Recorded Cassette

(Audio Dubbing)

To perform audio dubbing, the Remote Controller is necessary.

You can add music or narration to a recorded cassette.

♦ If [AUDIO REC] on the Menu has been set to [16bit], performing audio dubbing will completely erase the previously recorded sound.

Therefore, if you intend to perform audio dubbing but also want to keep the original sound, be sure to set [AUDIO REC] on the Menu to [12bit] before making the original recording.

♦ It is not possible to perform audio dubbing onto recordings made in the LP Mode. (→ 24)

1 Insert the recorded cassette and set the [POWER ON/OFF] Switch to [ON].

2 Press the [VCR/CAMERA] Button so that the [VCR] Lamp lights.

3 At the point from which you want to insert the new sound, switch the Movie Camera over to the Still Playback Mode.

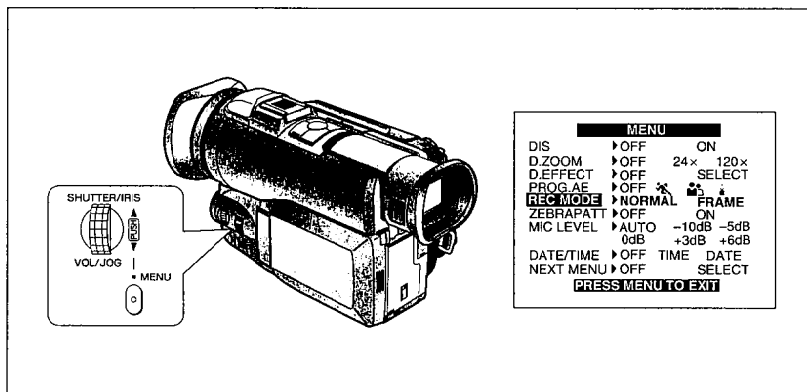
4 Press the [A.DUB] Button on the Remote Controller.

5 Press the Pause Button [II] on the Remote Controller to start audio dubbing.

Stopping Audio Dubbing

Press the Pause Button [II] on the Remote Controller. The Movie Camera is again in the Still Playback Mode.

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Playing Back the Sound Recorded with Audio Dubbing

- If you set [AUDIC REC] on the Menu to [12bit] for the original recording, the sound added with audio dubbing and the original sound are played back as follows depending on the setting selected for [AUDIO OUT] on the VCR Mode Menu (→ 126-132):
ST1: The original sound alone is played back.

- ST2: The dubbed sound alone is played back.
- MIX: The original sound and the sound added with audio dubbing are played back together.

- Do not perform audio dubbing onto unrecorded parts of the tape. This could cause the playback picture and sound to be distorted.
- If you reset the Tape Counter to zero at the point where you want the audio dubbing to end and turn on the Memory Stop Function (→ 162), the audio dubbing automatically stops when the tape reaches that point.

Remote Controller

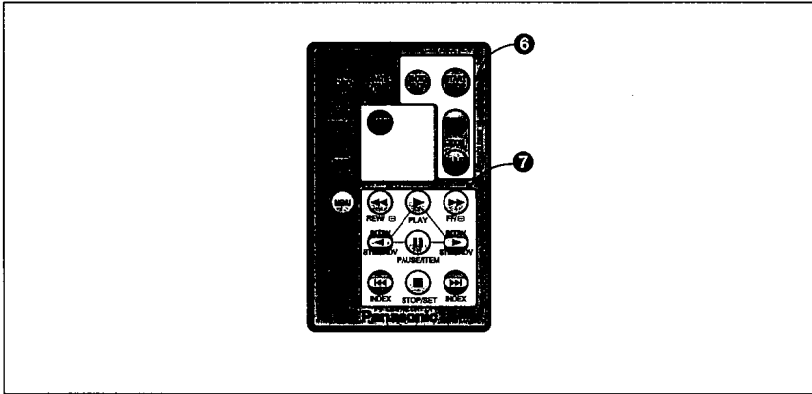
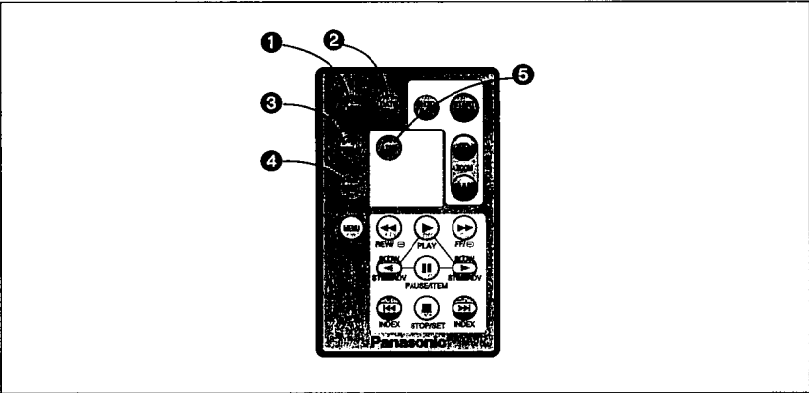
Using the wireless Remote Controller supplied with the Movie Camera allows operating most of the Movie Camera's major functions from a distance.

Buttons on the Remote Controller

- 1 Indication Output Button [OSD] (→ 54)
To display the function and operation indications on a connected TV.
- 2 Date and Time Button [DATE/TIME] (→ 46)

To make the Date/Time Indication appear or disappear in the picture during recording and playback.

- 3 Indication Shift Button [DISPLAY] (→ 170)
To select the desired Counter Indication.
- 4 Reset Button [RESET] (→ 162)
To reset the Tape Counter to zero.
- 5 Audio Dubbing Button [A.DUB] (→ 96)
To perform audio dubbing.



6 Controls for Recording and Sound Volume

Photoshot Button [PHOTO SHOT] (→ 40)
To record still pictures.

Recording Start/Stop Button [START/STOP] (→ 30)
To start and pause recording.

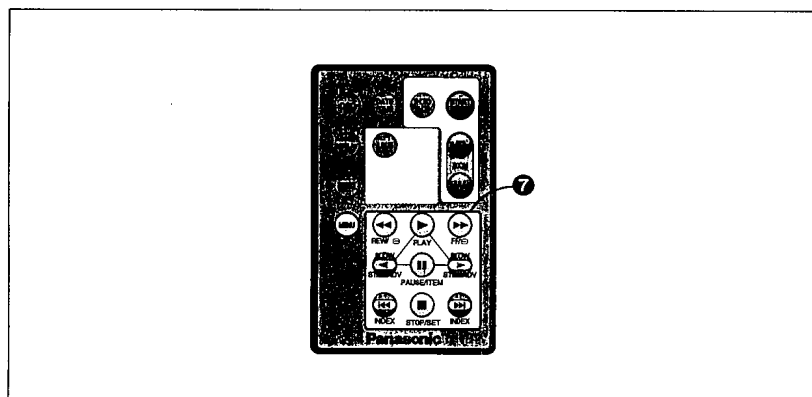
Zoom/Sound Volume Buttons [ZOOM/VOLUME]
To zoom in and out. (→ 38)
To adjust the volume of the playback sound. (→ 46)

7 Controls for Playback/Menu Setting

Rewind/Review Button [◀◀]
To start review playback (→ 48) if pressed during normal playback; and to rewind the tape if pressed in the Stop Mode.
Also to activate the Camera Search Function (→ 58) in reverse direction if kept pressed in the Recording Pause Mode. Pressing it briefly activates the Recording Check Function (→ 32).

Fast-forward/Cue Button [▶▶]
To start cue playback (→ 48) if pressed during normal playback; and to fast-forward the tape if pressed in the Stop Mode.
Also to activate the Camera Search Function (→ 58) in forward direction if kept pressed in the Recording Pause Mode.

Play Button [▶] (→ 46)
To start playback.



7 Slow Motion/Still Advance Button [◀, ▶] (→ 50, 52)

To perform Slow Motion Playback if pressed in the Normal Playback Mode; and to perform Still Advance Playback if pressed in the Still Playback Mode.
(◀: in reverse direction, ▶: in forward direction)

Index Search Button [◀◀, ▶▶] (→ 64, 66)

To search for recorded scenes marked with an index signal and for still images recorded in the Photoshot Mode.
(◀◀: in reverse direction, ▶▶: in forward direction)

Stop Button [■] (→ 46)

To stop the tape.

Pause Button [II] (→ 52)

To pause playback. The playback picture stands still.

Using the Menu Button [MENU]

Pressing the Menu Button [MENU] displays the Menu. In this case, the functions of the following buttons are changed:

Pause Button → Item Button
To select items on the Menu.

Stop Button → Setting Button
To set the mode for the selected item.

- The Iris and the shutter speed cannot be adjusted with the Remote Controller. If you want to adjust them manually, use the [PUSH] Dial on the Movie Camera.
(→ 86, 88)

Remote Controller (Continued)

■ Inserting the Button-type Battery

Insert the supplied button-type battery before using the Remote Controller.

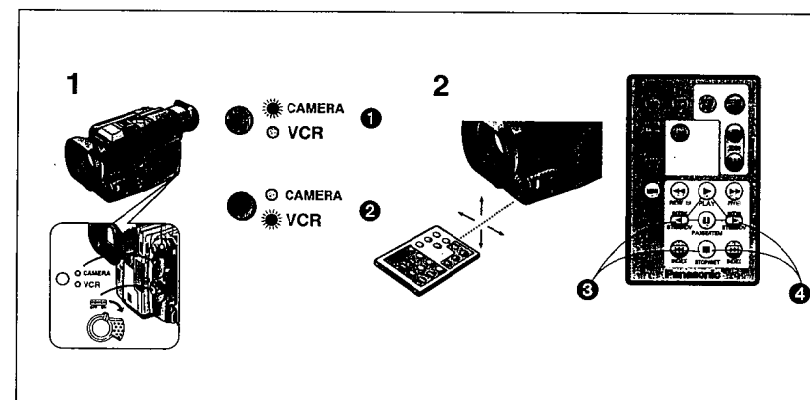
- 1 Pull out the Battery Holder while sliding the Stopper with a pointed object in the direction of the arrow ①.
- 2 Insert the button-type battery with the stamped (+) mark facing downward.
- 3 Insert the Battery Holder into the Remote Controller.

- When the button-type battery is exhausted, replace it with a new CR2025 battery.
(The life of the battery is about 1 year. However, it depends on the frequency of use.)
- **Keep the button-type battery out of the reach of children.**
- Make sure you insert the battery with its poles correctly aligned.

CAUTION

Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the equipment manufacturer. Discard used batteries according to manufacturer's instructions.

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■ Using the Remote Controller

1 Set the [POWER ON/OFF] Switch on the Movie Camera to [ON].

- When the [CAMERA] Lamp lights, you can use the recording functions. ①
- If you want to use the playback functions, press the [VCR/CAMERA] Button so that the [VCR] Lamp lights. ②

2 Aim the Remote Controller at the Remote Control Sensor on the Movie Camera and press the appropriate button.

Distance to the Movie Camera: Less than 5 metres.
Angle: Approximately 15° up, down, left and right from centre axis.

- The operative range described above is valid for using the Remote Controller indoors.
When using it outdoors or under strong lights, it may not work correctly even within the above range.

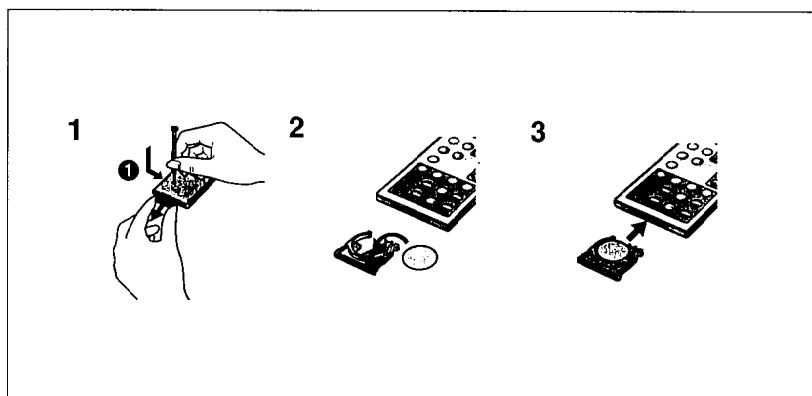
- Within a distance of about 1 metre, it is also possible to use the Remote Controller from the side (LCD Monitor side).

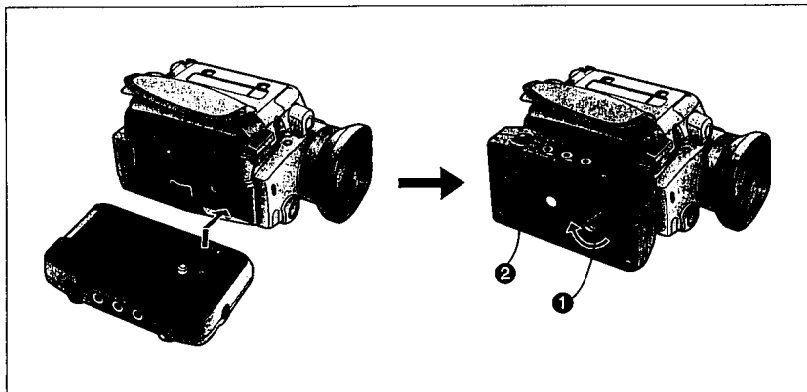
Selecting the Remote Controller Mode

When using two Movie Cameras at the same time, selecting different Remote Controller Modes makes it possible to operate them separately.

- If the Remote Controller Mode set on the Movie Camera and on its Remote Controller are not matched, the [REMOTE] Indication appears.
- Replacing the button-type battery in the Remote Controller automatically resets it to the [VCR1] Mode.
- Set [REMOTE] on the Menu to the desired Remote Controller Mode. (→ 126-130)
- ③ Press the [◀] Button and the [■] Button simultaneously.
This selects the [VCR2] Mode.
- ④ Press the [▶] Button and the [■] Button simultaneously.
This selects the [VCR1] Mode.

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Copying onto an S-VHS (or VHS) Cassette (Dubbing)

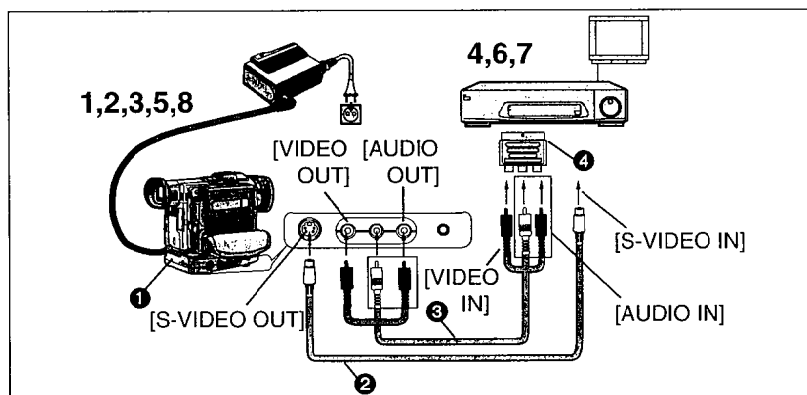
If you attach the Output Terminal Box [AV ONE TOUCH STATION], you can copy cassettes recorded with this Movie Camera onto S-VHS or VHS cassettes.

Attaching the Output Terminal Box [AV ONE TOUCH STATION]

- 1 Insert the plug of the Output Terminal Box [AV ONE TOUCH STATION] into the underside of the Movie Camera and lock it with the Screw ①.

- Before copying, press the [OSD] Button on the Remote Controller (→ 54) so that no indications appear. Otherwise, the Counter Indication and function indications are also recorded onto the cassette.
- Extending the Support Leg ② from the underside of the Output Terminal Box [AV ONE TOUCH STATION] makes it easier to view the playback picture on the LCD Monitor.

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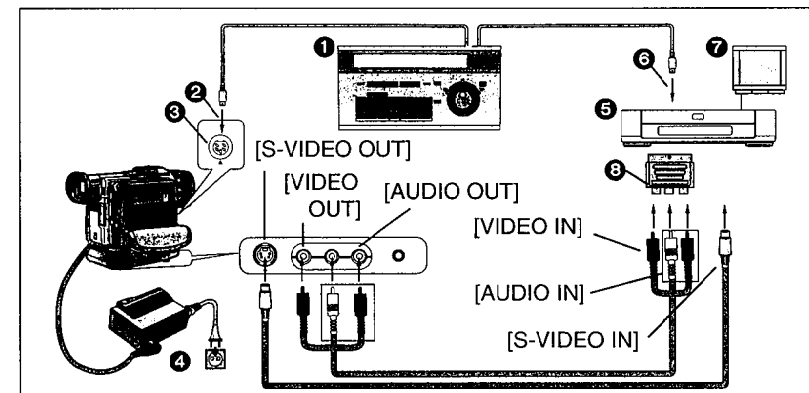
After connecting all equipment as shown above, perform the following operations:

- 1 Movie Camera:
Set the [POWER ON/OFF] Switch to [ON].
- 2 Movie Camera:
Insert the recorded cassette.
- 3 Movie Camera:
Press the [VCR/CAMERA] Button so that the [VCR] Lamp lights.
- 4 VCR:
Insert an unrecorded cassette with intact erasure prevention tab.
As some settings (external input, tape speed, etc.) on the VCR are necessary, please refer to your VCR's operating instructions.

- 5 Movie Camera:
Press the Play Button [▶] to start playback.
- 6 VCR:
Start recording.
- 7 VCR:
Press the Pause or Stop Button to stop recording.
- 8 Movie Camera:
Press the Stop Button [■] to stop playback.

- ① Output Terminal Box [AV ONE TOUCH STATION]
- ② S-Video Cable
- ③ AV Cable
- ④ 21-Pin Adaptor

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Copying with the Help of an Editing Controller

If you connect the Movie Camera to an Editing Controller equipped with 5-pin Edit Socket, this Movie Camera's playback functions can be controlled from the Editing Controller.
(The Output Terminal Box [AV ONE TOUCH STATION] is necessary.)

When Connecting the Editing Controller VW-EC500E ① (optional)

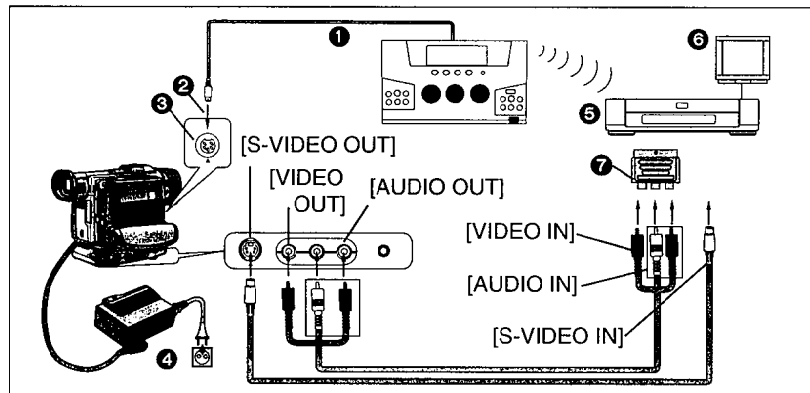
- A VCR equipped with 5-pin Edit Socket is necessary.
- When you connect the VW-EC500E to the Movie Camera, an adjustment on the VW-EC500E is necessary. For the operation of the Editing Controller, refer to its operating instructions.

When Editing with Time Code
Press the [DISPLAY] Button on the Remote Controller to make the Time Code appear.

- When the Time Code is displayed, the Time Code Signal is output from the Edit Socket.
- When the Counter Indication is displayed, the Linear Tape Counter Signal is output.

- ② To Edit Socket
- ③ Edit Socket
- ④ Connect the AC Adaptor.
- ⑤ VCR (optional)
- ⑥ To Edit Socket
- ⑦ TV (optional)
- ⑧ 21-Pin Adaptor

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When Connecting the Editing Controller VW-EC1E (optional)

- When you use the Editing Controller VW-EC1E ①, it is not necessary to connect it to the Edit Socket on the VCR, as the VCR's operation is performed via infrared remote control. Therefore, editing is also possible onto VCRs not equipped with an Edit Socket.
- For the operation of the Editing Controller, refer to its operating instructions.

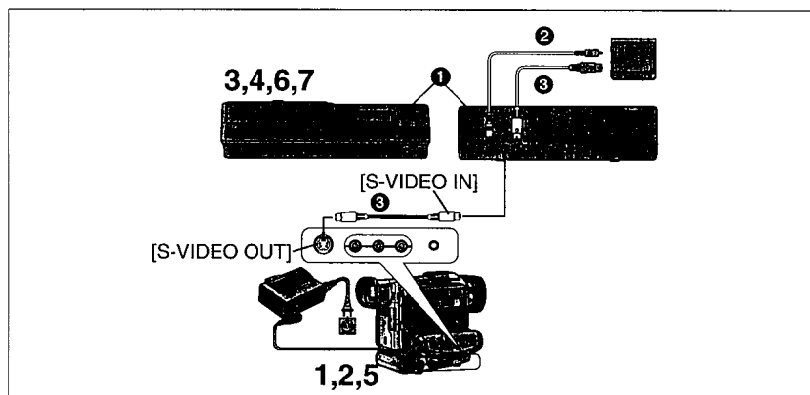
When Connecting the Editing Controller VW-EC310E to this Movie Camera, such events as described below may occur:

- The editing precision may be bad.
- Editing cannot be performed correctly.

Therefore, we recommend that you use the VW-EC500E or the VW-EC1E as Editing Controller with this Movie Camera.

- ② To Edit Socket
- ③ Edit Socket
- ④ Connect the AC Adaptor.
- ⑤ VCR (optional)
- ⑥ TV (optional)
- ⑦ 21-pin Adaptor

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Using the Movie Camera with a Video Printer

If you connect the Movie Camera to a Video Printer, you can print still pictures from scenes recorded with the Movie Camera.

Movie Camera:

- Set the [POWER ON/OFF] Switch to [ON] to turn the Movie Camera on.
- Insert a recorded cassette and press the [VCR/CAMERA] Button so that the [VCR] Lamp lights.
- Press the Play Button [▶].

Video Printer:

- Turn the Video Printer on.
- If the Video Printer is equipped with Digital Image Stabilizer Function and/or Moving/Still Picture Mode, adjust them according to the picture being input.

- Store the image in memory.

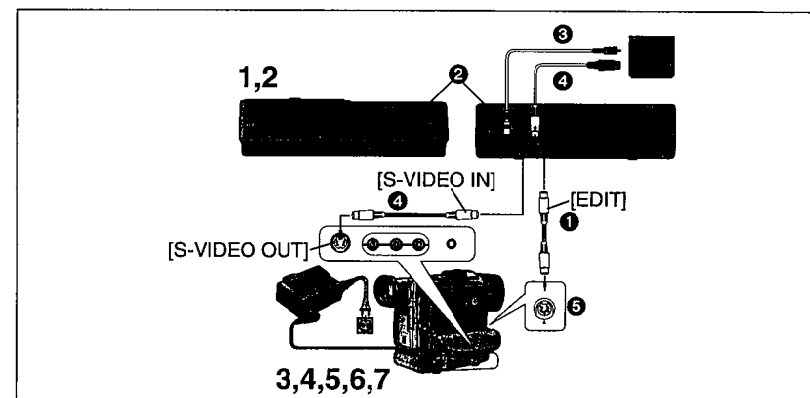
- Start printing.

- Read the operating instructions of the Video Printer ①.

- ② Video Cable (supplied with the Video Printer)

- ③ S-Video Cables (supplied with the Movie Camera and Video Printer)

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Using the Automatic Printing Function (Autoprint)

If you connect the Movie Camera to a Video Printer ② equipped with 5-pin Edit Socket, you can use the Auto Print Function to automatically print still pictures recorded in the Photoshot Function.

Video Printer:

- Turn the Video Printer on.
- Make the necessary settings on the Video Printer according to the input signal.

Movie Camera:

- Set the [POWER ON/OFF] Switch to [ON] to turn the Movie Camera on.

- Press the [VCR/CAMERA] Button so that the [VCR] Lamp lights.

- Search for the first still picture from which you want to start printing with the Auto Print Function.

If you want to print all still pictures recorded on the cassette, rewind the tape to its beginning.

- Press the [MENU] Button.

- Set [AUTOPRINT] on the Menu to [ON]. Automatic printing starts.

- If you want to stop the automatic printing in the middle, press the Stop Button [■] on the Movie Camera.

- ① Edit Cable VW-K5E (optional)

- ② Video Cable (supplied with the Video Printer)

- ③ S-Video Cables (supplied with the Movie Camera and Video Printer)

- ④ Edit Socket

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- When the cooling function of the Video Printer is activated and the printing speed slows down, the automatic printing may stop. In this case, set [AUTOPRINT] to [ON] again.
- If you replace the ink cassette or paper during printing, the same picture may be printed twice.
- If still pictures are recorded successively in the Photoshot Mode, some pictures may be skipped during printing.
- Before storing an image in memory on the Video Printer, press the [OSD] Button (→ 54) on the Remote Controller of the Movie Camera so that no indications appear in the picture. Otherwise, the Counter Indication and other function indications are also printed in the picture.
- In the following cases, some pictures may be skipped when printing with the Auto Print Function.
 - When you print still pictures recorded in the Photoshot Mode on a video camera of another brand.
 - If you turn the Movie Camera on and off several times (3 times or more) between recording two still pictures in the Photoshot Mode.
 - When you record a still picture in the Photoshot Mode on the same part of a cassette where a Photoshot picture was recorded before.
 - When you select a different recording speed (SP/LP) between the recording of two still pictures in the Photoshot Mode.
 - At the first Photoshot Picture to be printed.

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Using the Movie Camera with a Computer

The Personal Computer Connection Kit VW-DTA1E (optional) for Digital Video Cameras makes it possible to connect the Movie Camera to a computer and transmit still video images to it. (The Output Terminal Box [AV ONE TOUCH STATION] is also necessary.)

Computer System Requirements

DV STUDIO can be installed in a PC/AT personal computer which can run Microsoft® Windows® 95.

- Compatible machines: Personal computer with 80486DX4 or higher CPU (Pentium™ or higher recommended)
- Graphic card: True Color (approx. 16.7 million colours) recommended (operation also possible even with 256 colours)
- Installed memory: 16 MB or more (32 MB or more recommended)

Free hard disk space: At least 10 MB
Disk drive: CD-ROM drive
Serial port: RS-232C (D-sub 9pin)
Other requirements: Mouse

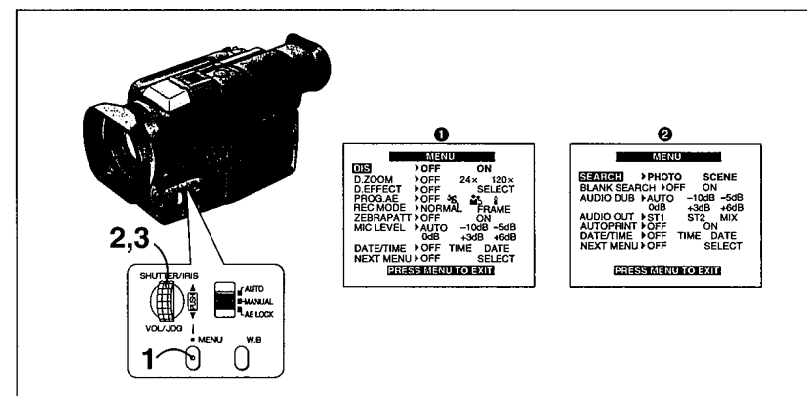
To connect the Movie Camera to the computer, use the special Interface Adaptor ❶ contained in the Personal Computer Connection Kit.

- Pictures that you intend to import into computer applications should be recorded in the SP Mode.
- When recording, take care that the Time Code is uninterrupted from the beginning of the tape.

- Windows® 95 is a trademark of Microsoft Corporation U.S.A.
- All other company and product names in the operating instructions are trademarks of their respective corporations.

- ❷ Digital Still Picture Terminal
- ❸ Output Terminal Box [AV ONE TOUCH STATION]

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Using the Menu Screen

This Movie Camera displays the settings of various functions in Menus to make it easy to select the desired functions and settings.

- Press the [MENU] Button.**
The Menu appears.
- Turn the [PUSH] Dial to select the item to be set.**
Turning the [PUSH] Dial changes the highlighted item.
- Press the [PUSH] Dial to set the selected item to the desired mode.**
Every press moves the cursor [▶] to the next mode.

Displaying the Camera Mode Menu ❶

Press the [MENU] Button in the Recording Pause Mode.

- While the Menu is displayed, recording is not possible.
- During recording, displaying the Menu is not possible.

Displaying the VCR Mode Menu ❷

Press the [MENU] Button when the [VCR] Lamp is lit.

- While the Menu is displayed, playback is not possible.
- During playback, displaying the Menu is possible.

Exiting the Menu

Press the [MENU] Button again.

Note About the Settings Made on the Menu
The settings you selected on the Menu are maintained when you turn the Movie Camera off. However, if you disconnect the power supply unit (Battery or AC Adaptor) from the Movie Camera before turning it off, the selected settings may not be maintained.

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MENU			
1	DIS	OFF	ON
2	D.ZOOM	OFF	24x 120x
3	D.EFFECT	OFF	SELECT
4	PROG.AE	OFF	2x 3x 4x
5	REC MODE	NORMAL	FRAME
6	ZEBRAPATT	OFF	ON
7	MIC LEVEL	AUTO	-10dB -5dB 0dB +3dB +6dB
8	DATE/TIME	OFF	TIME DATE
9	NEXT MENU	OFF	SELECT
PRESS MENU TO EXIT			

Menu Functions

Camera Mode Menu

- 1 Digital Image Stabilizer [DIS] (→ 44)
- 2 Digital Zoom [D.ZOOM] (→ 38)
- 3 Digital Effects [D.EFFECT] (→ 76, 78, 80)
- 4 Auto Exposure Modes [PROG.AE] (→ 70)

- 5 Recording Mode [REC MODE] (→ 94)
- 6 Zebra Pattern [ZEBRAPATT] (→ 92)
- 7 Microphone Sensitivity Level [MIC LEVEL] (→ 94)
- 8 Date and Time Indication [DATE/TIME] (→ 46)
- 9 Other Items [NEXT MENU] (→ 130)
If you set [NEXT MENU] to [SELECT], the next menu appears.

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- 10 Recording Speed Mode [REC SPEED] (→ 24)
- 11 Audio Recording Mode [AUDIO REC] (→ 96)
- 12 Wind Buffer [WIND CUT]
If you set [WIND CUT] to [ON], the noise of the wind hitting the Microphone is reduced. However, this also causes a slight deterioration of the sound reproduction in the bass range.
- 13 Cinema-like Format Recording [CINEMA] (→ 42)
- 14 Shutter Effect [SHTR EFFECT] (→ 40)
- 15 Self-Recording [SELF SHOOT] (→ 34)
- 16 Scene Index Mode [SCENE INDEX] (→ 62)
- 17 Recording Lamp [REC LAMP] (→ 30)
- 18 LCD Lighting Mode [LCD MODE] (→ 138)
- 19 LCD and Finder Adjustment [LCD/EVF SET] (→ 138)
- 20 Remote Controller Mode [REMOTE] (→ 108)
- 21 Counter Display Mode [DISPLAY] (→ 170)
- 22 Counter Reset [C.RESET] (→ 162)
To reset the counter to zero.
However, the Time Code cannot be reset.
- 23 Date and Time Setting [CLOCK SET] (→ 134)

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MENU			
1	SEARCH	PHOTO	SCENE
2	BLANK SEARCH	OFF	ON
3	AUDIO DUB	AUTO	-10dB -5dB 0dB +3dB +6dB
4	AUDIO OUT	ST1	ST2 MIX
5	AUTOPRINT	OFF	ON
6	DATE/TIME	OFF	TIME DATE
7	NEXT MENU	OFF	SELECT
PRESS MENU TO EXIT			

MENU			
1	LCD MODE	NORMAL	BRIGHT
2	LCD / EVF SET	OFF	ON
3	REMOTE	VCR1 VCR2	OFF
4	DISPLAY	LINEAR	MEMORY
5		TIMECODE	OFF
6	C.RESET	OFF	ON
7	CLOCK SET	OFF	ON
PRESS MENU TO RETURN			

VCR Mode Menu

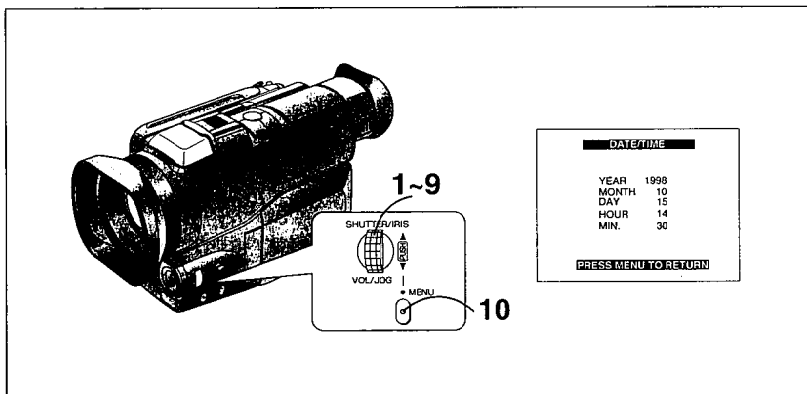
- 1 Index Search [SEARCH] (→ 64, 66)
- 2 Blank Search [BLANK SEARCH] (→ 60)
- 3 Microphone Sensitivity Level [AUDIO DUB] (→ 96)
- 4 Audio Output Mode [AUDIO OUT] (→ 98)

- 5 Automatic Printing [AUTOPRINT] (→ 120)
- 6 Date and Time Indication [DATE/TIME] (→ 46)
- 7 Other Items [NEXT MENU]
If you set [NEXT MENU] to [SELECT], the next menu appears. This is the same menu as the third menu of the Camera Mode. (→ 130)

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MENU			
10	REC SPEED	SP	LP
11	AUDIO REC	12bit	16bit
12	WIND CUT	OFF	ON
13	CINEMA	OFF	ON
14	SHTR EFFECT	OFF	ON
15	SELF SHOOT	NORMAL	MIRROR
16	SCENE INDEX	2 HOUR	DAY
17	REC LAMP	OFF	ON
	NEXT MENU	OFF	SELECT
PRESS MENU TO RETURN			

MENU			
10	LCD MODE	NORMAL	BRIGHT
11	LCD / EVF SET	OFF	ON
12	REMOTE	VCR1 VCR2	OFF
13	DISPLAY	LINEAR	MEMORY
		TIMECODE	OFF
14	C.RESET	OFF	ON
15	CLOCK SET	OFF	ON
PRESS MENU TO RETURN			



Setting the Date and Time

Selecting [NEXT MENU] on the Menu (either Camera Mode Menu or VCR Mode Menu) and setting [CLOCK SET] to [ON] displays the menu shown above. (→ 130)

For example: To set the clock to 15th October 1998, 14:30.

- 1 Turn the [PUSH] Dial to set to [1998].
- 2 Press the [PUSH] Dial to select [MONTH].
- 3 Turn the [PUSH] Dial to set to [10].
- 4 Press the [PUSH] Dial to select [DAY].
- 5 Turn the [PUSH] Dial to set to [15].
- 6 Press the [PUSH] Dial to select [HOUR].
- 7 Turn the [PUSH] Dial to set to [14].
- 8 Press the [PUSH] Dial to select [MIN.].
- 9 Turn the [PUSH] Dial to set to [30].
- 10 Press the [MENU] Button to finish the date and time setting.

The operation of the clock starts from [00] seconds.

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- As small imprecisions in the time indication can occur, we recommend that you confirm that the time shown is correct before you start recording. When the [] Indication appears, charge the built-in battery and set the date and time again.
- The years change in the following order:
1990 → 1991 → ... → 2089 → 1990 → ..

Charging the Built-in Battery

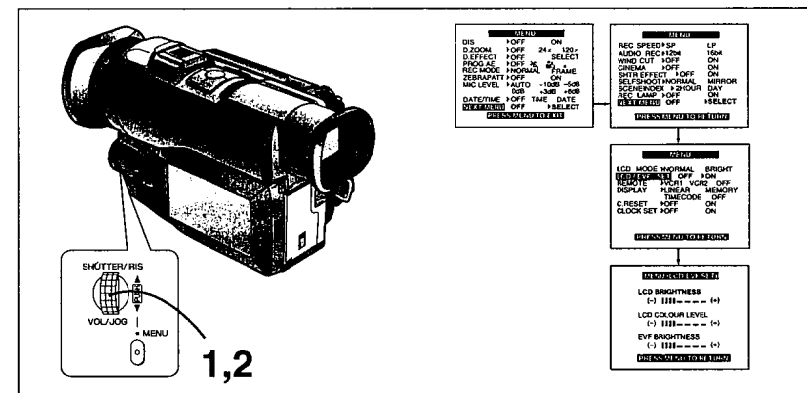
The built-in battery maintains the operation of the clock. When the [] Indication appears, the built-in battery is discharged. Charge the discharged battery in the following way and after charging is finished, set the date and time.

1 Connect the AC Adaptor to the Movie Camera and to an AC mains socket. (→ 16)

2 Leave the Movie Camera turned off.

3 Leave the Movie Camera in this condition for approximately 4 hours. After charging for 4 hours, the built-in lithium battery can power the clock for approximately 3 months.

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Adjusting the LCD Monitor

Selecting [NEXT MENU] on the Menu (either Camera Mode Menu or VCR Mode Menu) and setting [LCD/EVF SET] to [ON] displays the following items. (→ 126-130)

LCD Brightness [LCD BRIGHTNESS]

To adjust the brightness of the LCD screen. The Bar Indication is divided into 8 steps. The more vertical bars are shown, the brighter is the screen.

LCD Colour Level [LCD COLOUR LEVEL]

To adjust the colour saturation of the LCD screen. The Bar Indication is divided into 8 steps. The more vertical bars are shown, the stronger are the colours.

Finder Brightness [EVF BRIGHTNESS]

To adjust the brightness of the Finder. The Bar Indication is divided into 8 steps. The more vertical bars are shown, the brighter is the screen.

1 Press the [PUSH] Dial to select the item that you want to adjust.

2 Turn the [PUSH] Dial. Turning it increases or decreases the number of vertical bars of the Bar Indication.

Boosting the Brightness of the Whole LCD Monitor

Setting [LCD MODE] on the Menu to [BRIGHT] brightens up the LCD Monitor.

• These adjustments have no influence on the actually recorded picture.

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Cautions for Use

Take care that no water enters the Movie Camera when using it in the rain and snow or on the beach.

- The Movie Camera and the cassette could become damaged. (It might not be repairable.)

Keep the Movie Camera away from magnetized equipment (TVs, TV games, etc.).

- If you use the Movie Camera on or near a TV, the electromagnetic radiation may cause picture and sound distortion.
- Strong magnetic fields generated by speakers and large motors may damage the recordings on the tape and distort the picture.
- The electromagnetic radiation from micro-computers can adversely influence the Movie Camera and cause picture and sound distortion.
- If the Movie Camera is adversely influenced by magnetized equipment and does not work correctly, turn the Movie Camera off, remove the Battery or disconnect the AC Adaptor and insert the Battery or connect the AC Adaptor again. Then turn the Movie Camera on.

Do not use the Movie Camera near a radio transmitter or high-voltage power line.

- If you record near a radio transmitter or high-voltage power line, the recorded picture and sound may be adversely influenced.

Do not use the Movie Camera for surveillance and other industrial applications.

- If the Movie Camera is being used for a long time, the inside temperature could rise excessively and this may cause malfunction.
- This Movie Camera is not designed for industrial use.

Take care that no sand and fine dust enters the Movie Camera when using it on a beach or similar places.

- Sand and dust could damage the Movie Camera and cassette. (Be careful when inserting and removing the cassette.)

■ Condensation

Determining Whether Condensation Has Formed Inside and Remedy for Condensation

If the Condensation Indication flashes after you turn on the Movie Camera, condensation has formed inside the Movie Camera. In this case, the Movie Camera automatically switches off after a few seconds. Remedy as follows:

1 Take out the cassette.

All other functions do not work. Depending on the amount of condensation, it may not be possible to take out the cassette. In this case, wait 2 - 3 hours before taking out the cassette.

2 Leave the Cassette Compartment open and wait for 2 - 3 hours.

The required time depends on the amount of condensation and the ambient temperature.

3 After 2 - 3 hours, turn the Movie Camera on and check if the Condensation Indication is not displayed.

Even if the Condensation Indication is no longer displayed, wait 1 more hour for added safety before using the Movie Camera again.

Pay Attention to Condensation Even Before the Condensation Indication Appears.

- As condensation forms gradually, the Condensation Indication may not appear for the first 10 - 15 minutes after the condensation has formed inside.
- In an extremely cold place, the condensation could freeze and turn into frost. In such a case, it takes an additional 2 - 3 hours for the frost to first melt into condensation and then to be dissolved.

Remedy for a Fogged-up Lens

Set the [POWER ON/OFF] Switch to [OFF] and leave the Movie Camera in this condition for about 1 hour. When the lens has reached about the same temperature as its surroundings, it automatically clears up.

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■ Video Head Clogging and Remedy

If the video heads (which contact the tape) are dirty, the playback picture contains rectangular blocks of picture noise or the whole screen becomes blue. If they are very dirty, the recording performance deteriorates and in the worst case, recording may not be possible at all.

Causes of Dirty Video Heads

- A lot of dust in the air.
- High-temperature and high-humidity environment.
- Damaged tape.
- Long-time use.

Periodic Inspection

To ensure optimum picture quality, we recommend that you have worn out parts such as video heads replaced after approximately 1000 hours of use. (However, this depends considerably on the conditions of use such as temperature, humidity and dust.)

■ Optimum Use of the Battery

Special Characteristics of the Battery

This Battery is a rechargeable lithium-ion battery. Its ability to generate electric energy is based on an internal chemical reaction. This reaction is easily influenced by ambient temperature and humidity, and the useful operation time that the Battery can provide becomes shorter at high and low temperatures. When used in extremely cold surroundings, the Battery may only be able to provide approximately 5 minutes of operation time. If the Battery becomes extremely hot, a protection function is activated and prevents the use of the Battery for some time.

After Use, Always Take Out the Battery.

Be sure to remove the Battery from the Movie Camera. (If it is left in the Movie Camera, a small amount of electric current is consumed even if the Movie Camera is turned off.) Leaving the Battery inserted in the Movie Camera for a very long time could cause it to become excessively discharged, so that it cannot be used any more even after charging.

Discarding a Battery That Has Become Unusable

- The usable life of the Battery is limited.
- Do not throw the Battery in a fire because it could explode.

Keep the Battery's Terminals Clean.

Be careful that the terminals (the two small round openings) do not get plugged up with dust, dirt or other substances.

If you accidentally drop the Battery, confirm that the Battery itself and the terminals are not deformed. Inserting a deformed Battery in the Movie Camera or attaching it to the AC Adaptor could damage the Movie Camera or the AC Adaptor.

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■ Precautions for Storage

Before Storing the Movie Camera, Take out the Cassette and Remove the Battery.

Store all equipment in a dry place where the temperature remains relatively constant.
(Recommended temperature is 15°C - 25°C and recommended relative humidity is 40% - 60%.)

Movie Camera

- Wrap it with a soft cloth to prevent dust from entering.

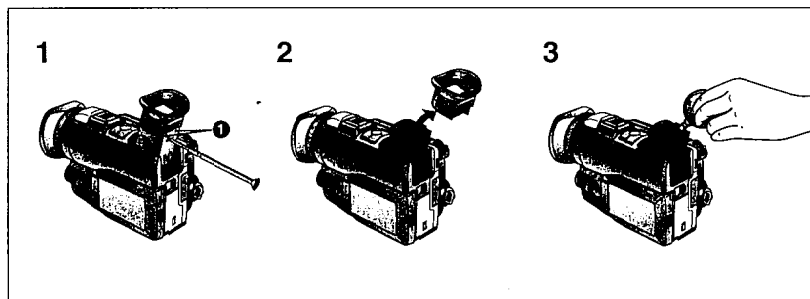
Battery

- Extremely low or high temperature shortens the Battery life.
- Storing it in places with oily smoke and a lot of dust could cause the terminals to get rusty, and this can result in malfunction.
- **Do not allow metal objects (such as necklaces and hair pins) to touch the battery terminals. Short-circuiting may occur and generate heat, and touching it in this condition could inflict serious burns.**
- Store the Battery in discharged condition. If you store the Battery for a long time, we recommend that you charge it once a year and completely use up the charge before storing it again in discharged condition.

Cassette

- Rewind the tape to its beginning before storing. Leaving the cassette with the tape stopped halfway for more than 6 months (depending on the storing condition) loosens the tape. Be sure to rewind it to the beginning.
- Put the cassette in its case to store it. Dust, direct sunlight (ultraviolet rays) and humidity could damage the tape. Dust contains hard mineral particles and cassettes with dust damage the video heads and other parts of the Movie Camera. Make it a habit to always put the cassette back into its case.
- Completely wind the tape forward and then rewind it once every half year. Leaving the cassette for more than a year without winding/rewinding it may deform the cassette because of swelling and shrinking of the tape due to changes in temperature and humidity. Also, the tape may stick together.
- Do not place the cassette near strongly magnetized objects or equipment.
- The tape surface is coated with microscopic magnetic particles and they record signals. Such objects as magnetic necklaces and toys have stronger magnetic force than commonly thought, and this could erase the recorded contents and cause noise in picture and sound.

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■ LCD Monitor and Lens Hood

LCD Monitor

- In places where big changes in temperature occur, condensation may form on the LCD Monitor. Wipe it with a soft, dry cloth.
- When the Movie Camera is very cold when it is turned on, the picture on the LCD Monitor is initially a little darker than normally. However, as the internal temperature rises, the LCD Monitor regains its normal brightness.
- Extremely high precision technology is employed in producing the LCD Monitor. The result is more than 99.99% effective pixels with a mere 0.01% of the pixels inactive or always lit.

Lens Hood

- If you want to attach a filter from the Filter Kit (optional), be sure to first remove the Lens Hood. However, during recording in the Cinema Mode with a filter attached, the four corners of the picture may become dark (vignetting effect), when you push the [W/T] Zoom Lever toward [W].

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Glossary

■ Digital Video System

In the digital video system, picture and sound are converted into digital signals and recorded onto the tape. This completely digital recording allows recording and playback of picture and sound with minimum quality deterioration.

In addition, such data as Time Code, Date and Time are also automatically recorded as digital signals.

Features

- Superior picture resolution
- Excellent signal-to-noise ratio
- Stable pictures
- Minimised quality deterioration in dubbing
- Minimised cross colour distortion
- PCM digital sound
- No picture deterioration in LP Mode
- 6.35 mm-wide tape
- Compact cassette with long recording time
- Minimised quality deterioration in editing
- Time Code editing

Compatibility with S-VHS or VHS Cassettes

As this Movie Camera uses a digital method for recording picture and sound, there is no compatibility with conventional S-VHS or VHS video equipment using analog recording methods.

In addition, the size and shape of the cassette are completely different.

Compatibility with Output Signals

As the video and audio signals output from the audio and video output sockets are analog — the same as in conventional video systems — you can connect this Movie Camera to your S-VHS or VHS VCR or TV for playback.

PCM Digital Sound

For recording of the sound, this Movie Camera offers the choice between two different PCM Audio Recording Modes.

- 16 bit, 48 kHz, 2 channels
- 12 bit, 32 kHz, 4 channels

The "16 bit, 48 kHz, 2 channels" Mode offers superior recording sound quality.

The "12 bit, 32 kHz, 4 channels" Mode lets you record the original sound in stereo on two channels and the dubbed sound in stereo on two separate channels.

Sub Code

The digital recording system offers the added capability of recording sub code containing various data.

The following data is recorded as sub code on this Movie Camera:

- Time code
- Recording date and time
- Index signals for locating still images recorded in the Photoshot Mode
- Index signals for locating the beginning of scenes marked with index signal

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■ Focus

If you look at an object through a magnifying glass and move it closer or further away from your eye, you will reach a point where the object becomes clearly visible. Being focused or in focus means that the subject can be seen with optimum clarity and sharpness.

Human Eyes

Human eyes have lenses as well, and when we look at objects at different distances, the shape of these lenses changes automatically so that we can always see these objects clearly.

Movie Camera

The image of the subject enters the Movie Camera through the lens and is converted into an electric signal (video signal) for recording onto magnetic tape. The focus is adjusted either manually or automatically by moving a focusing lens.

Auto Focus Adjustment

The Auto Focus System automatically moves the internal focusing lens forward or backward and adjusts the focus so that the subject can be seen clearly.

The Auto Focus Adjustment has the following characteristics:

- It adjusts until the vertical contours of the subject are as sharp and clean as possible.
- It adjusts the focus on the subjects with strong contrast.
- It adjusts the focus on the subject in the centre of the LCD Monitor or Finder.

Unlike human eyes, the lens of the Movie Camera cannot instantaneously change the focus from a nearby to a distant subject and vice versa.

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For the following subjects and recording situations, the Auto Focus System cannot provide precise adjustment. Use the Manual Focus Mode instead. (→ 36)

- ① **Recording subjects with a part of it near the Movie Camera and another part far away from it**
As the Auto Focus adjusts on the centre part of the image, it is often impossible to bring the nearby and distant parts of the subject into focus. When you want to record a person with a distant mountain in the back, it is not possible to focus on both.
- ② **Recording subjects behind glass covered with dirt or dust**
As the focus is adjusted on the dirty glass, the subject behind the glass is out of focus. When recording a subject across a street on which cars are running, the focus may be adjusted on the cars.
- ③ **Recording subjects in dark surroundings**
As the amount of light information entering through the lens is greatly reduced, the Movie Camera cannot adjust the focus precisely.

- ④ **Recording subjects surrounded by objects with shiny surfaces or much light reflection**
As the Movie Camera adjusts the focus on objects with shiny surfaces or much light reflection, the subject may go out of focus. Therefore, when recording at a lake or the sea, evening scenes, fireworks, or under special types of lighting, the subject may be out of focus.
- ⑤ **Recording fast-moving subjects**
As the internal focusing lens is moved mechanically, it cannot follow fast-moving subjects without delay. Therefore, subjects like children running back and forth may temporarily go out of focus.
- ⑥ **Subjects with weak contrast**
As the Movie Camera adjusts the focus based on vertical contours in the picture, subjects with little contrast such as a white wall may be out of focus.

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■ White Balance Adjustment

While most recording with a Movie Camera is probably done outdoors under sunlight, video recording is also done very often under artificial light sources, both indoors and outdoors. However, each of these light sources gives the subject slightly different colours.

Human Eyes

Human eyes can easily adjust to different kinds of lighting and see an object with the same colours even under different lighting.

Movie Camera

Unlike human eyes, the Movie Camera does not have the innate ability to adapt to changes in lighting, and they influence the colours being recorded. Therefore, depending on the light source, the picture would be recorded with a bluish or reddish tint. To minimise the influence of the lighting on the colours of the subject, an adjustment called White Balance Adjustment is necessary.

White Balance Adjustment

The White Balance Adjustment determines the colour of the light and adjusts the colours so that white remains pure white. As white is the basic colour of the entire colour spectrum, if white is reproduced correctly, the other colours are correct and natural, too.

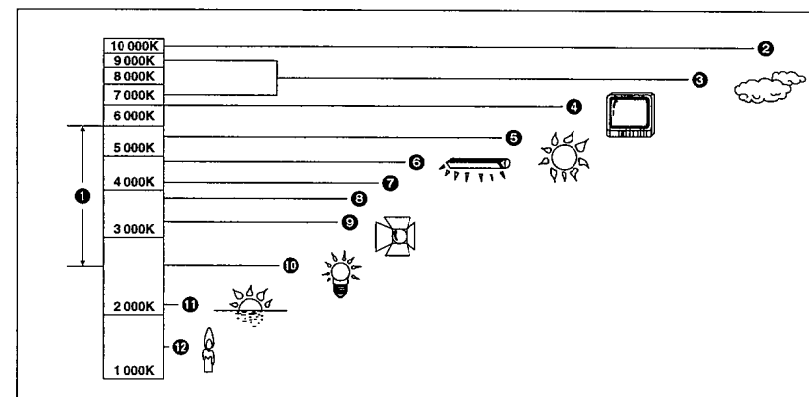
Auto White Balance Adjustment

This Movie Camera stores the optimum settings for several common light sources in memory. The Movie Camera judges the recording situation by determining the tint of the light received through the lens and by the White Balance Sensor (→ 14), and it selects the setting for the most similar tint. This function is called Auto White Balance Adjustment.

However, as the white balance settings for only a few light sources are stored in memory, the white balance is not correctly adjusted for other lighting conditions.

For the range of different types of lighting within which the Auto White Balance Function can provide precise adjustment, refer to the chart (→ 160). For recording under lighting conditions outside this range, the Auto White Balance Function does not work correctly, and the recorded picture has a red or blue cast. However, the same also applies, if the subject is lit by more than one light source, even if these light sources are within this range.

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■ Colour Temperature

Every light source has its own colour temperature measured in Kelvin (K). The higher the Kelvin value, the more bluish the light; the lower the value, the more reddish the light. The Kelvin value is related to the tint of the light, but not directly to its brightness. The range ① indicated in the illustration above shows the light sources for which this Movie Camera can provide precise white balance adjustment and, therefore, natural colours in the recorded pictures, when using the Full Auto Mode. For light sources outside this range, adjust the white balance manually (→ 84). Also, additional lighting may be necessary.

- ① Control range of this Movie Camera's Auto White Balance Adjustment Mode
- ② Blue sky
- ③ Cloudy sky (Rain)

■ Time Code

Time Code signals are the data which indicates the time in hours, minutes, seconds and frames (25 frames/sec). Having this data included in the recording gives every single picture on the tape its own address.

- The time Code is automatically recorded as part of the sub code with every recording you make.
- When you insert a new (previously unrecorded) cassette, the Time Code automatically starts from zero. If you insert a recorded cassette, the Time Code continues where the time code of the last previous scene stopped. (In this case, the zero indication [0h:00m:00s:00f] may appear after inserting the cassette, but when the recording starts, the Time Code records from the previous value.)
- You cannot reset the Time Code to zero.
- In playback modes other than the Normal Playback Mode, the Time Code may not be displayed (or not be correct).
- Unless the Time Code is recorded continuously from the beginning of the tape, precise editing may not be possible. To ensure that the Time Code is recorded without interruption, we recommend that you use the Camera Search Function (→ 58) or Blank Search Function (→ 60) before starting to record a new scene.

■ Memory Stop Function

The Memory Stop Function is convenient for the following operations.

- ④ TV screen
- ⑤ Sunlight
- ⑥ White fluorescent lamp
- ⑦ 2 hours after sunrise or before sunset
- ⑧ 1 hour after sunrise or before sunset
- ⑨ Halogen light bulb
- ⑩ Incandescent light bulb
- ⑪ Sunrise or sunset
- ⑫ Candlelight

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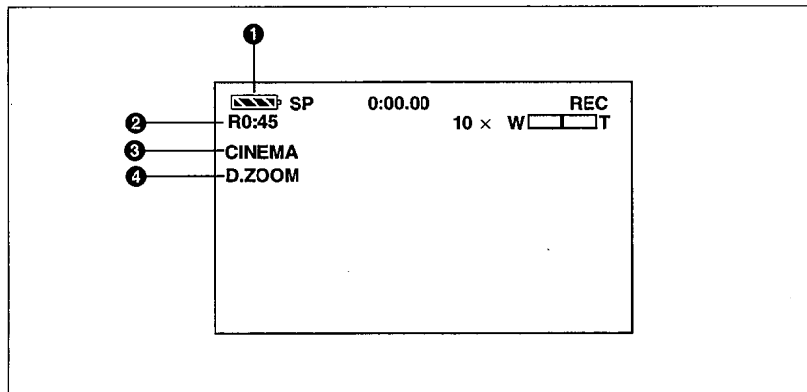
Rewinding or fast-forwarding the tape to a desired position

- 1 Reset the Tape Counter at the tape position from which you want to play back later. (→ 130)
- 2 Set [DISPLAY] on the Menu to [MEMORY]. (→ 126-132)
- 3 Start playback or recording.
- 4 After playback or recording is finished: Press the [VCR/CAMERA] Button so that the [VCR] Lamp lights.
- 5 Rewind the tape.
The tape automatically stops approximately at the position at which you reset the counter to zero.

Stopping the editing automatically in the audio dubbing

- 1 Reset the Tape Counter to zero at the tape position at which you want the editing to stop.
- 2 Set [DISPLAY] on the Menu to [MEMORY]. (→ 126-132)
- 3 Play back a still picture at the point at which you want the audio dubbing to start.
- 4 Start the audio dubbing.
The audio dubbing automatically stops approximately at the position at which you reset the counter to zero.

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Indications on the LCD Monitor/in the Finder

1 Remaining Battery Power

As the remaining battery power decreases, the indication changes as follows:

When the battery is completely discharged, the () indication flashes.

(When you are using the AC Adaptor, the () indication may appear, however, this has no meaning in this case.)

2 Remaining Tape Time

The remaining tape time is displayed in minutes. (When it becomes less than 3 minutes, the indication starts to flash.)

- If a recording lasts less than 15 seconds, the Remaining Tape Time cannot be displayed correctly.
- The displayed remaining tape time may be shorter than the actual remaining tape time.

3 Cinema Mode (→ 42)

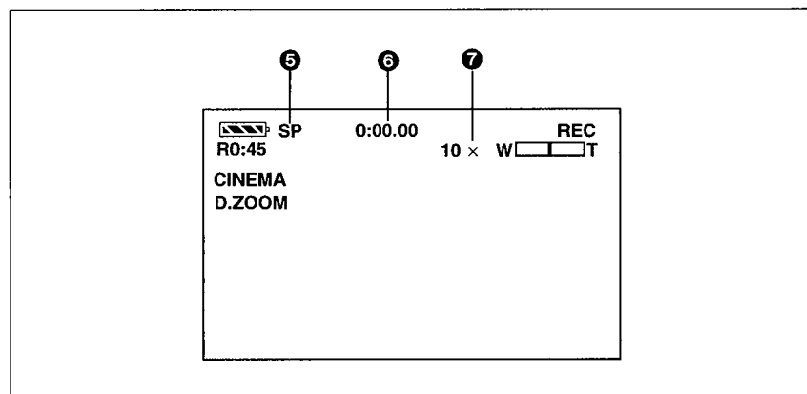
When recording in the Cinema Mode, this indication is displayed.

4 Digital Zoom (→ 38)

When the Digital Zoom Function is activated, this indication is displayed.

Digital Effects (→ 74)

When a digital effect is activated, the corresponding indication is displayed.



5 Recording Speed Mode (→ 24)

The selected Recording Speed Mode is displayed.

SP: Standard Mode

LP: Long-play Mode

6 Tape Counter, Time Code (→ 170)

The Tape Counter, Memory Stop Function or Time Code Indication is displayed.

7 Zoom Magnification (→ 38)

When you push the [W/T] Zoom Lever up or down, the Zoom Magnification Indication and the Zoom Gauge are displayed.

Recording Mode

(→ 30, 36, 70, 82, 84, 86, 88, 90)

AUTO: This appears when the Mode Selector Switch is set to the [AUTO] position.

MNL: This appears when the Mode Selector Switch is set to the [MNL] position.

AE LOCK: This appears when the Mode Selector Switch is set to the [AE LOCK] position.

Digital Image Stabilizer (→ 44)

When the Digital Image Stabilizer Function is activated, this indication is displayed.

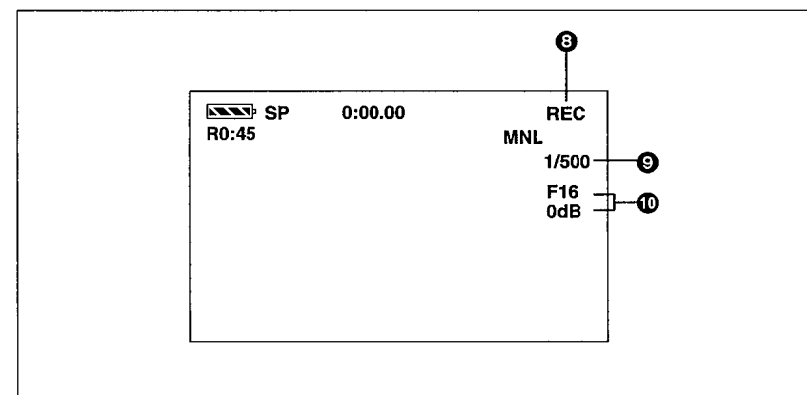
Audio Recording Mode (→ 96)

12bit/16bit: The indication of the Audio Recording Mode that was selected for recording is displayed during playback.

All Photoshot Pictures Printing (→ 120) *

AUTOPRINT: This indication is displayed when the Auto Print Function is being used.

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8 Tape Run Indications

REC: Recording (→ 30)
 PAUSE: Recording Pause (→ 30)
 ▷: Playback (→ 46)/Camera Search in forward direction (→ 58)
 ◁: Camera Search in reverse direction (→ 58)
 II: Still playback (→ 52)
 ▷▷: Fast-forward/Cue playback (→ 48)
 ◁◁: Rewind/Review playback (→ 46, 48)
 II ▷ / ◁ II: Slow playback in forward direction/Slow playback in reverse direction (→ 50)
 II ▷ / ◁ II: Still Advance playback in forward direction/Still Advance playback in reverse direction (→ 52)
 ▷▷ / ◁◁: Index Search in forward direction/Index Search in reverse direction (→ 64, 66)

CHK: Recording check (→ 32)
 A.DUB>: Audio dubbing (→ 96)
 A.DUB II: Audio dubbing pause (→ 96)
 PHOTO: Recording in the Photoshot Mode (→ 40)
 BLANK: Blank Search (→ 60)
 RP: Repeat playback (→ 150)

- When recording with the LCD Monitor facing forward using the Mirror Mode, only the Remaining Battery Power Indication, the Recording Indication [●] and the Recording Pause Indication [● II] are displayed.

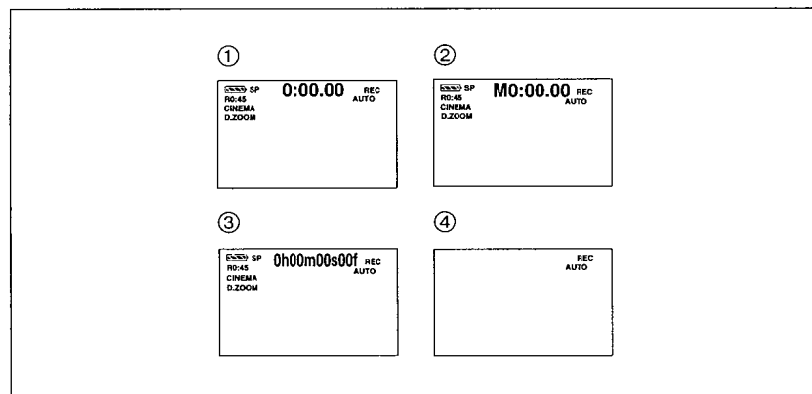
9 Shutter Speed

It appears when you manually adjust the shutter speed. (→ 86)

10 Iris Value (F Number)/Gain-up Value

These two indications appear together when you manually adjust the iris and gain. (→ 88)

-168-



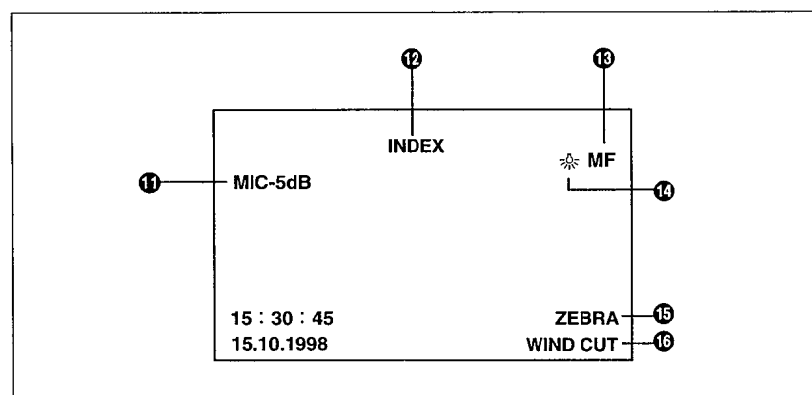
Changing the Indications

By changing the setting for [DISPLAY] on the Menu (→ 126-132) or by repeatedly pressing the [DISPLAY] Button on the Remote Controller (→ 100), the Counter Display Mode can be changed in the order shown in the above illustrations ① to ④:

- ① Tape Counter Indication
- ② Tape Counter Indication with activated Memory Stop Indication

- ③ Time Code Indication
- ④ No Indication
(In this mode, only the Tape Run Indications, Warning/Alarm Indications, Date/Time Indications, Programme AE Mode Indications, Manual Focus Mode Indications, White Balance Mode Indications, and Zoom Magnification Indication can be displayed.)

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11 Microphone Sensitivity Level

This indication shows the selected microphone sensitivity for recording. When it is displayed in red, it indicates that the sound being recorded is distorted. If you set [MIC LEVEL] on the Camera Mode Menu (→ 128), or [AUDIO DUB] on the VCR Mode Menu (→ 132) to [AUTO], the Microphone Sensitivity Level Indication does not appear.

12 Index (→ 62)

INDEX: The [INDEX] Indication flashes for a few seconds while an index signal is being recorded.

Search Number (→ 66)

S1: The figure indicates which number of scene ahead from the present scene is to be played back.

13 Manual Focus (→ 36)

If you select the Manual Focus Mode, the [MF] Indication is displayed. When the Movie Camera is in the Auto Mode, this indication is not displayed.

14 White Balance Mode (→ 82)

The White Balance Mode offers the following possible settings:

- ☀: Indoor (Incandescent Lamp) Mode
- ☀: Outdoor Mode
- ☀: Lock Mode

When the Movie Camera is in the Auto Mode, none of the above 3 indications are displayed.

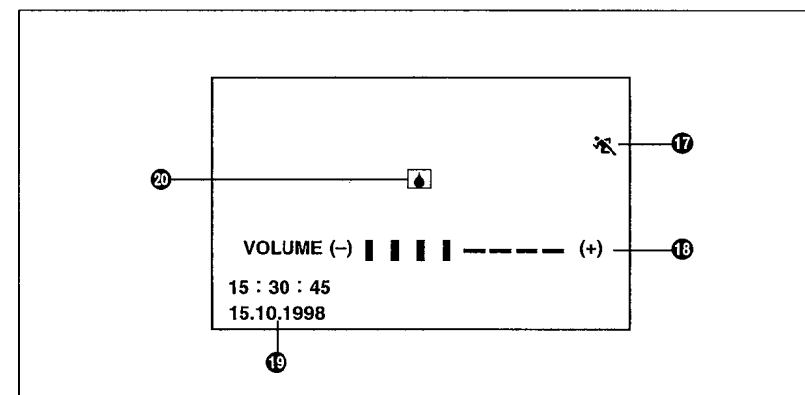
15 Zebra Pattern

If you set [ZEBRAPATT] on the Menu (→ 128) to [ON], the [ZEBRA] Indication is displayed.

16 Wind Buffer [WIND CUT]

If you set [WIND CUT] on the Menu (→ 130) to [ON], the [WIND CUT] Indication is displayed.

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17 Programme AE Mode (→ 70)

The Programme AE Function offers the following settings:

- ☀: Sports Mode
- ☀: Portrait Mode
- ☀: Low Light Mode

18 Sound Volume (→ 46)

Use this indication to adjust the volume of the playback sound from the built-in speaker. With the [VCR] Lamp lit, keep the [PUSH] Dial pressed until the [VOLUME] Indication appears. Then turn the [PUSH] Dial to adjust the volume.

19 Date and Time (→ 46)

The time is indicated in the 24-hour system.

20 Warning/Alarm

When any of the following indications lights or flashes, confirm the condition of the Movie Camera.

- ☀: Condensation has occurred. (→ 144)
- ☀: The erasure prevention slider of the inserted cassette is closed (set to [SAVE]).
- ☀: No cassette is inserted.
- ☀: The built-in battery is discharged. (→ 136)
- ☀: The heads are dirty.
- ☀: During recording, the tape has reached its end.
- REMOTE: Wrong Remote Controller Mode is selected. (→ 108)
- PRINTER ERROR: This indication is displayed if you set [AUTOPRINT] on the Menu to [ON] when no printer is connected to the Movie Camera.

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Before Requesting Service (Problems & Solutions)

Power Supply

- P1: The Movie Camera does not turn on.**
S1: Is the Battery or the AC Adaptor connected correctly? Confirm the connection. (→ 16)
- P2: The Movie Camera has turned off automatically.**
S2: If you leave the Movie Camera in the Recording Pause Mode for more than 6 minutes, it automatically switches off to protect the tape and to conserve battery power. (→ 30)
- P3: The Movie Camera quickly turns off.**
S3-1: Is the Battery discharged? When the Remaining Battery Power Indication is flashing or the [] Indication is displayed, the Battery is discharged. Charge the Battery or insert a fully charged Battery. (→ 18, 164)

- S3-2:** Has condensation formed? If the Movie Camera is brought from a cold to a warm place, condensation may form inside. In this case, the Movie Camera automatically switches off and no operation can be performed except taking out the cassette. Wait until the Condensation Indication disappears. (→ 144)

Battery

- P1: The Battery discharges quickly.**
S1-1: Is the Battery fully charged? Charge it until all 4 Charge Lamps on the AC Adaptor light. (→ 18)
S1-2: Are you using the Battery in a place where the temperature is very low? The ambient temperature greatly influences the Battery's performance. Its operation time becomes shorter in a cold place. (→ 146)
S1-3: Has the Battery reached the end of its service life? The service life of the Battery is limited. It depends on the way the Battery is used, but when the operation time even after proper charging is too short for normal use, the service life of the Battery has reached its end.

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Normal Recording

- P1: Recording cannot be started even though the Movie Camera is supplied with power and the cassette is inserted correctly.**
S1-1: Is the erasure prevention slider of the cassette open? If it is open (set to [SAVE]), recording is not possible. (→ 22)
S1-2: Has the tape reached its end? Insert a new cassette. (→ 22)
S1-3: Is the Movie Camera turned on? (→ 30)
S1-4: Is the [VCR] Lamp lit? If it is lit, recording is not possible. (→ 46)
S1-5: Is the Condensation Indication [] displayed? When condensation has formed, no functions except taking out the cassette can be operated. Wait until the Condensation Indication disappears. (→ 144)

Other Recording

- P1: The picture on the LCD Monitor/in the Finder suddenly stands still for a few seconds.**
S1-1: Did you press the [PHOTO SHOT] Button? If you press the [PHOTO SHOT] Button, a still picture is recorded for approximately 7 seconds. After approximately 7 seconds, the Movie Camera switches back to the Recording Pause Mode. (→ 40)

- S1-2:** Did you press the Still Button []? If you press the Still Button [], the picture stands still. Simply press this button again to return to the normal moving picture. (→ 44)
- P2: The Auto Focus Function does not work.**
S2-1: Is the Manual Focus Mode selected? If you select the Auto Focus Mode, the focus is adjusted automatically. (→ 36)
S2-2: Is the recording subject or situation suitable for the Auto Focus Mode? The Auto Focus Function does not work correctly for some kinds of subjects and recording situations. In this case, use the Manual Focus Mode to adjust the focus. (→ 156)

Editing

- P1: Audio dubbing cannot be performed.**
S1-1: Is the erasure prevention slider of the cassette open? If it is open (set to [SAVE]), editing is not possible. (→ 22)
S1-2: Are you trying to edit parts of the tape recorded in the LP Mode? As the tracks recorded in the LP Mode are narrower than the heads, audio dubbing is not possible. (→ 24)

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Indications

- P1: The Time Code becomes incorrect.**
S1: In the Slow Motion Playback Mode in reverse direction, the counter of the Time Code Indication may not be stable, however, this is not a malfunction.
- P2: The Remaining Tape Time Indication disappears.**
S2: If you record a still picture in the Photoshot Mode, the Remaining Tape Time Indication disappears temporarily. However, if you switch the Movie Camera over to the Normal Recording Mode, it appears again.
- P3: The Remaining Tape Time Indication does not match the actual remaining tape time.**
S3-1: If scenes of less than 15 seconds are recorded successively, the remaining tape time is not indicated correctly.
S3-2: The Remaining Tape Time Indication may show a remaining tape time that is 2 - 3 minutes shorter than the actual remaining tape time.

Playback (Picture)

- P1: No playback picture is reproduced when pressing the Play Button [].**

- S1:** Did you press the [VCR/CAMERA] Button so that the [VCR] Lamp lights? When the [VCR] Lamp is not lit, no playback functions can be operated. (→ 46)
- P2: Mosaic-like patterns appear in the picture during Cue, Review or Slow Motion Playback.**
S2: This phenomenon is a characteristic of the digital video system. This is not a malfunction. (→ 48)
- P3: I want to play back the picture on a TV.**
S3: If you attach the Output Terminal Box [AV ONE TOUCH STATION] to the Movie Camera, you can connect the Movie Camera to a TV. (→ 54)
- P4: The Movie Camera is correctly connect to a TV, but no playback picture is reproduced.**
S4: Did you select "Video Input" on the TV? Carefully read the operating instructions for your TV and select the channel that matches the input sockets used for connection.
- P5: The playback picture is not reproduced clearly.**
S5: Are the video heads on the Movie Camera dirty? If the video heads are dirty, the picture cannot be played back clearly.

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Playback (Sound)

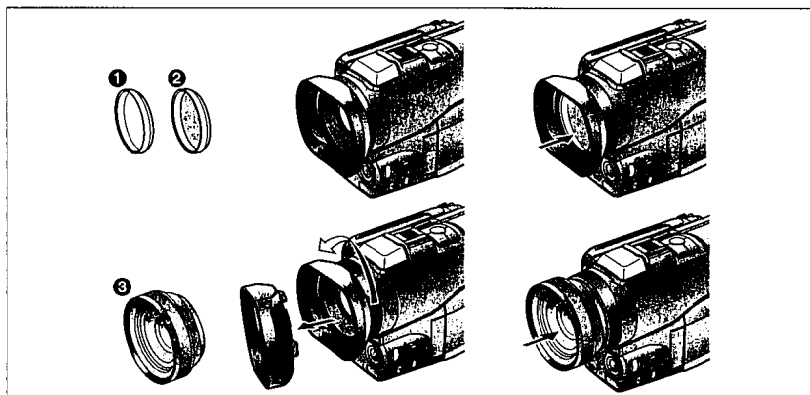
- P1: No sound is played back from the Movie Camera's built-in speaker.**
S1: Is the volume set too low? With the [VCR] Lamp lit, keep the [PUSH] Dial pressed until the [VOLUME] Indication appears. Then turn the [PUSH] Dial to adjust the volume. (→ 46)
- P2: Different sounds are played back together.**
S2: Is [AUDIO OUT] set to [MIX] on the VCR Mode Menu? If you have performed audio dubbing on a cassette for which you set [AUDIO REC] to [12bit] for recording, the original sound and the sound dubbed with audio dubbing are played back together. It is also possible to play them back individually. (→ 98)
- P3: The original sound was erased by performing audio dubbing.**
S3: If you perform audio-dubbing on a recording made in the [16bit] Mode (→ 96), the original sound is erased. If you want to keep the original sound, be sure to select the [12bit] Mode for the original recording.

Others

- P1: The cassette cannot be taken out.**

- S1:** Is the Movie Camera supplied with power? Is the AC Adaptor correctly connected or the Battery correctly inserted? To remove the cassette, the Movie Camera must be supplied with power, however, it is not necessary to set the [POWER ON/OFF] Switch to [ON].
- P2: No operation except taking out the cassette can be performed.**
S2: Is the Condensation Indication [] displayed? If condensation has formed inside the Movie Camera, it automatically switches off and prevents any operation except taking out the cassette. Wait until the Condensation Indication disappears. (→ 144)
- P3: The Remote Controller does not work.**
S3-1: Is the button-type battery in the Remote Controller exhausted? If the Remote Controller does not work when you use it near the Remote Controller Sensor on the Movie Camera, the button-type battery is exhausted. Replace it with a new battery. (→ 106)
S3-2: Is the correct Remote Controller Mode selected? If the Movie Camera's setting for [REMOTE] on the Menu and the mode selected on the Remote Controller are not matched, operating the Movie Camera with the Remote Controller is not possible and the [REMOTE] Indication is displayed. (→ 108)

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Filter Kit/Wide Conversion Lens

1 ND Filter (ND8)

- This filter reduces the amount of light to approximately 1/8th but does not affect the colours.
- The depth of field is slightly reduced.
- White balance adjustment is possible even with either of these filters attached. However, when using the ND Filter and recording with Auto White Balance, the white balance adjustment may not be precise. Therefore, we recommend that you use the Manual White Balance Mode when recording with the ND Filter attached.
- When you record with a filter attached and zoom to the extreme wide-angle setting, the four corners of the picture may become dark (vignetting effect).

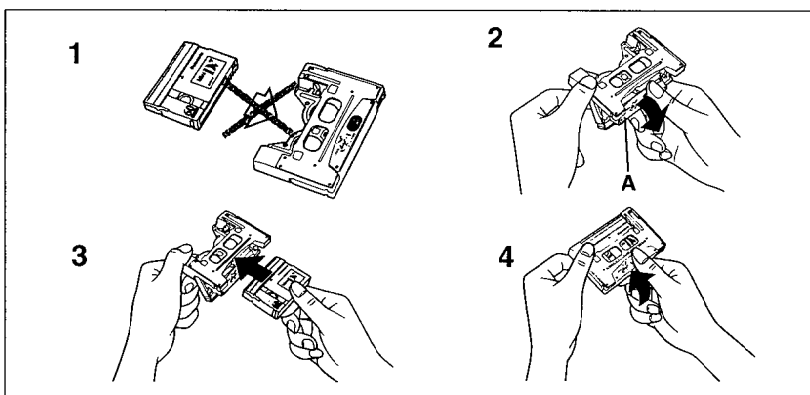
2 MC Protector

- Since this filter neither affects the colours nor the amount of light, it can always be left attached to protect the Movie Camera's lens.
- It reduces invisible ultraviolet rays and prevents the picture from becoming bluish.

3 Wide Conversion Lens

- Use the Wide Conversion Lens under bright lighting. (If used under insufficient lighting, the sharpness at the centre and near the edges of the picture may differ considerably.)
- When you record with the Wide Conversion Lens attached and zoom to the extreme wide-angle setting, the four corners of the picture may become dark (vignetting effect).

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Cassette Adaptor

It can only be used with S cassettes bearing the DV mark.
It can only be used to play back DV cassettes which are recorded in "iDV" format.

1 Take care to insert the cassette in the proper direction.

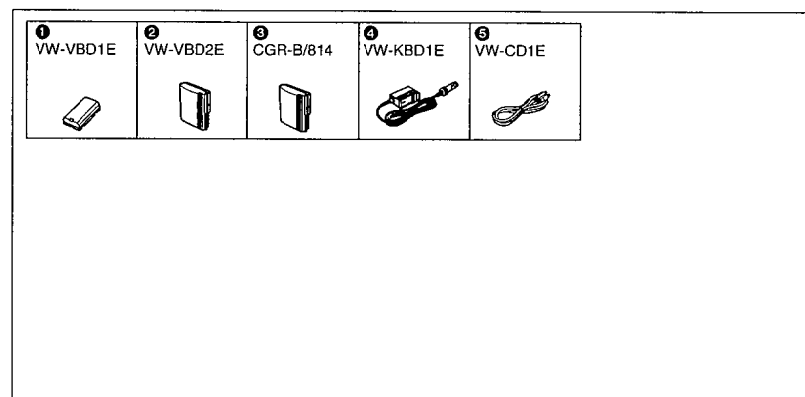
2 Open the Cassette Adaptor.

3 Insert the Cassette tape.

4 Close the Cassette Adaptor.

- Do not subject the cassette adaptor to strong shocks or vibration as it uses precision parts. Also, do not modify or disassemble the cassette adaptor. After use, remove the DV cassette and store it in its case.
- Do not push down A (rear door) using an unnecessarily large force.

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Optional Accessories

- 1 Battery Pack (Lithium)
- 2 Battery Pack (Lithium, Large Capacity)
- 3 Battery Pack (Lithium, Large Capacity)
- 4 Car Battery Charger
- 5 DV Cable

• Some accessories are not available in some countries.

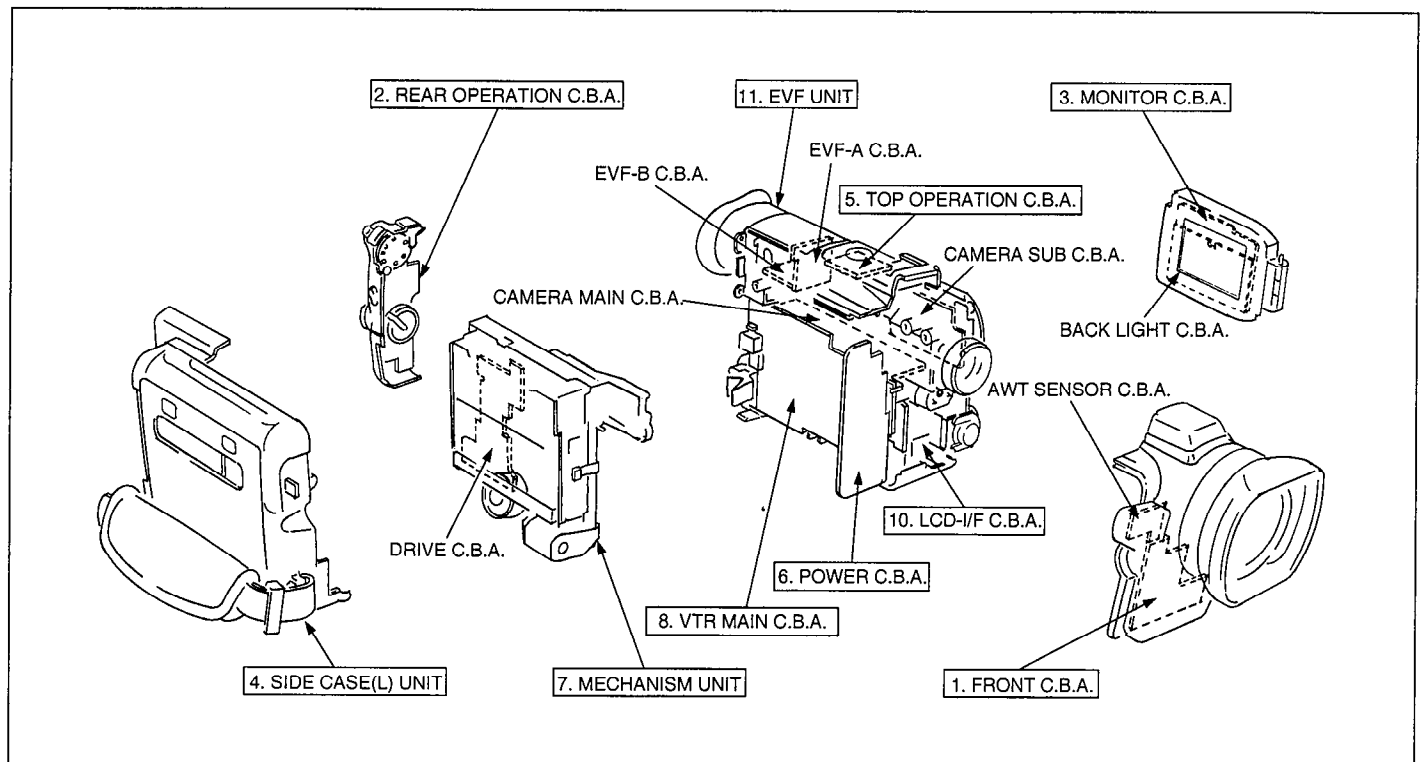
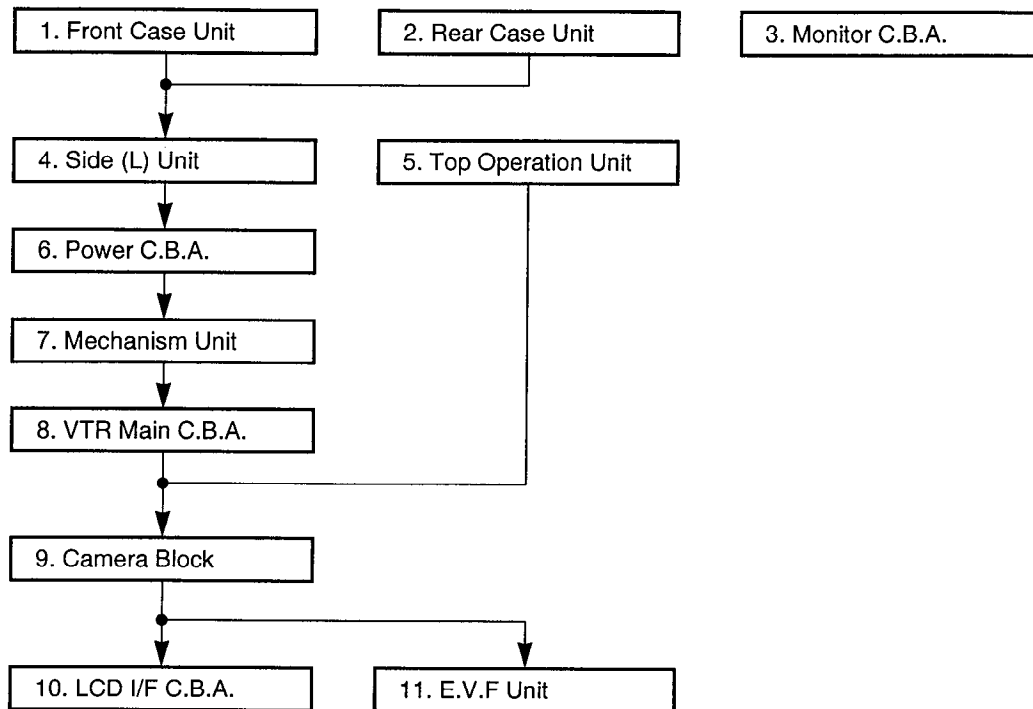
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Memo

SECTION 2 ADJUSTMENT PROCEDURES

2-1. DISASSEMBLE FLOW CHART

This flow chart indicates the disassembly steps the cabinet parts, C.B.A. and Mechanism Unit in order to access to items to be serviced. When reinstalling, perform the steps in the reverse order.



2-2. DISASSEMBLY PROCEDURES

Flow-chart Disassembly procedure

No.	ITEM / PART	FIG.	REMOVAL (SCREW & Other)
1	FRONT CASE UNIT	Fig. 1 Fig. 2	Remove the Shoe Adapter Cover. 4-SCREW (A/B/C) 4-SCREW (D/E/F) Remove the Front Case Unit. Disconnect the 2-Flex Cables. (FP4801/FP4902: Behind of Front Case Unit.)
2	REAR CASE UNIT	Fig. 3	7-SCREW (H/I/J/K/L) Remove the Rear Case Unit. Disconnect the 1-Flex Cables. (FP6701) Note: SCREW was located under the DV Cover.
3	MONITOR C.B.A.	Fig. 4 Fig. 5	2-SCREW (M) 2-SCREW (N) 5-CONNECTORS (P901/FP901/FP903/FP904/FP905)
4	SIDE CASE (L) UNIT	Fig. 6 Fig. 7	3-SCREW (O) Remove the Grip Cover. 3-SCREW (P/Q) 2-SCREW CAP/2-SCREWS (R) CASSETTE COVER 1-SCREW (S) Remove the Side Case (L) Unit.
5	TOP OPERATION UNIT	Fig. 8	TOP OPERATION UNIT 1-CONNECTOR (FP6801)
6	POWER C.B.A.	Fig. 9	1-SCREW (T) 1-SCREW (U) 2-CONNECTORS (FP1001/PP1001)
7	MECHANISM UNIT	Fig. 10 Fig. 11	2-SCREW (V/W) & EVR COVER 1-SCREW (X) 1-CONNECTOR (PP2001) 1-CONNECTOR (FP3201) 2-SCREW (Y)
8	VTR MAIN C.B.A.	Fig. 12	2-SCREW (Z) 4-CONNECTORS (P3001/PS3001/PS3002/PP3002) Unlocked 1 Locking Tab.
9	CAMERA BLOCK	Fig. 13	3-SCREW (a/b) 1-CONNECTOR (FP305 from Side Case (R).)
10	LCD-I/F C.B.A.	Fig. 14	6-SCREW (c/d/e) 3-CONNECTORS (From EVF/Side Case (R).)
11	EVF UNIT	Fig. 15 Fig. 16	4-SCREW (f/g) SPEAKER UNIT 4-SCREW (h/i)

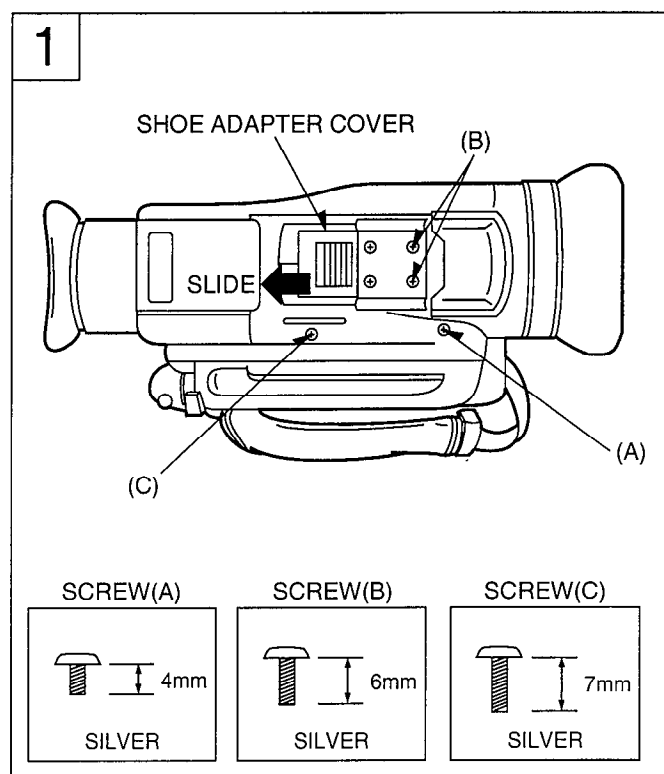


Fig. 1

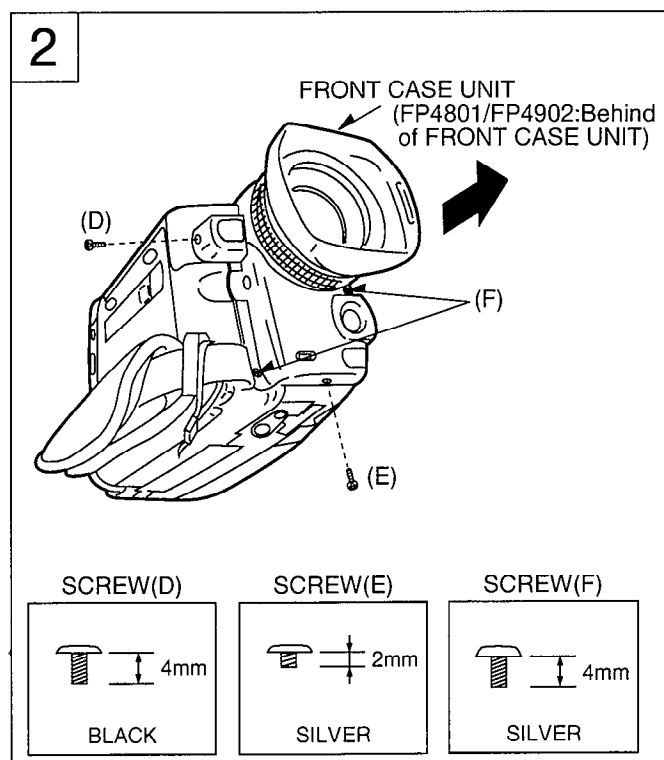


Fig. 2

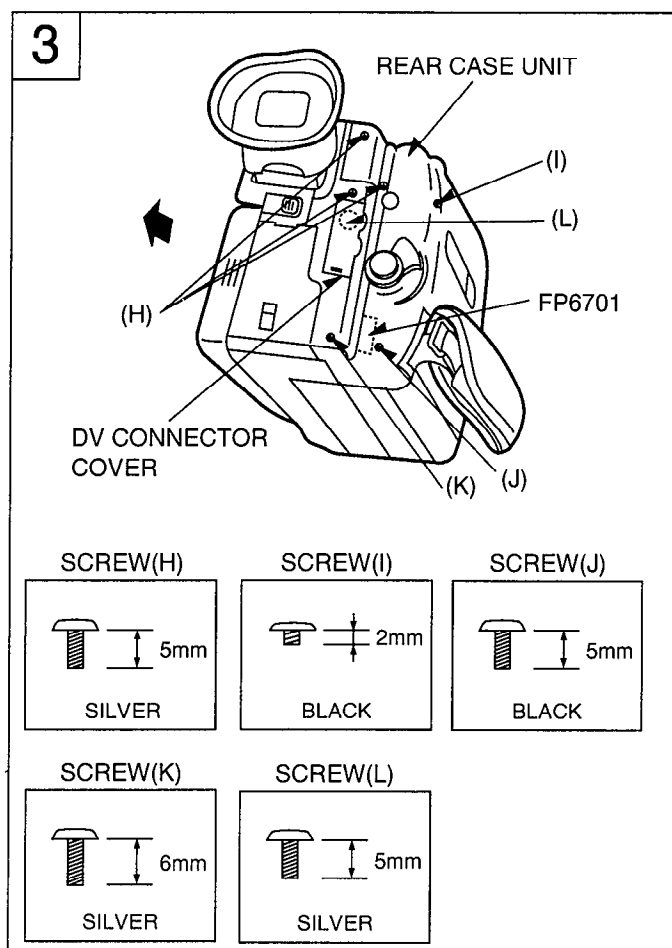


Fig. 3

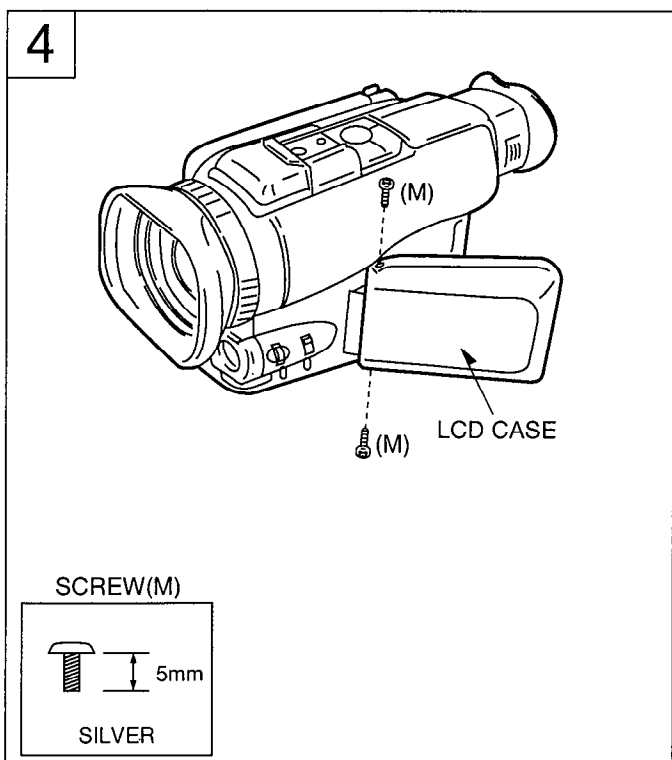


Fig. 4

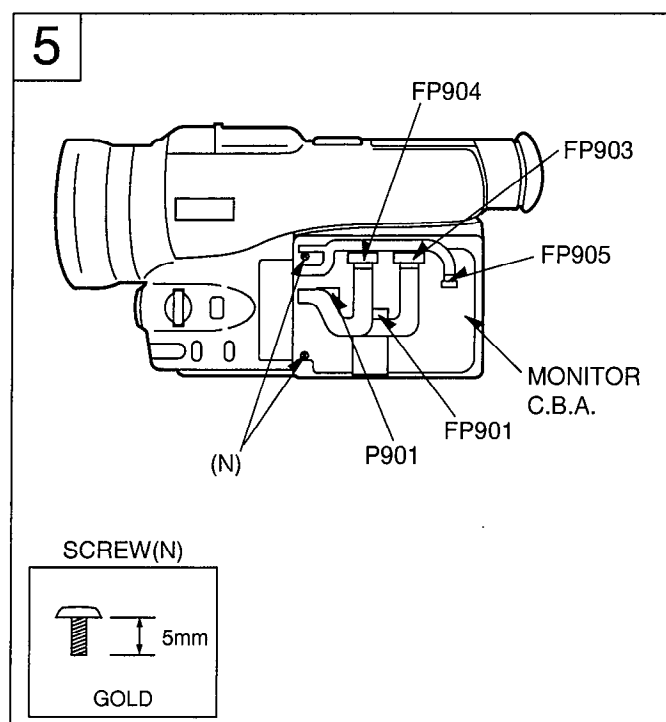


Fig. 5

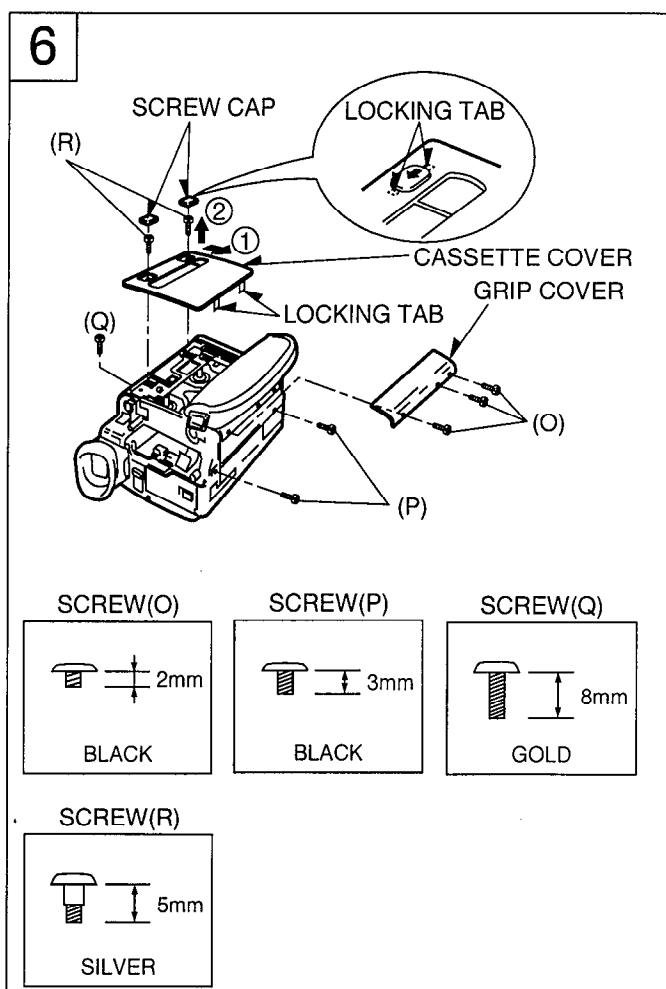


Fig. 6

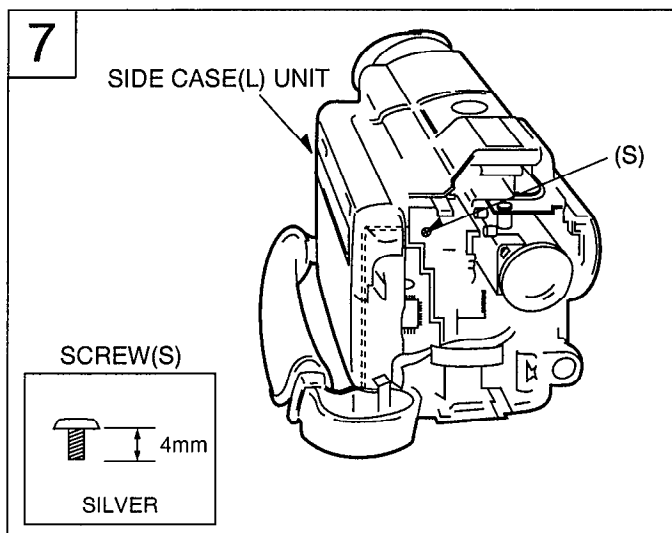


Fig. 7

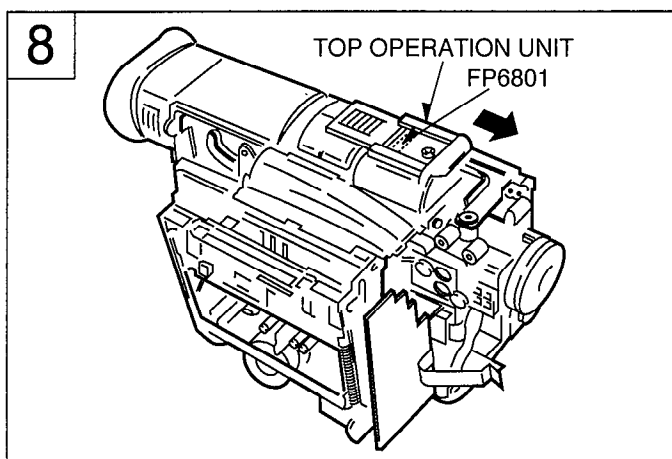


Fig. 8

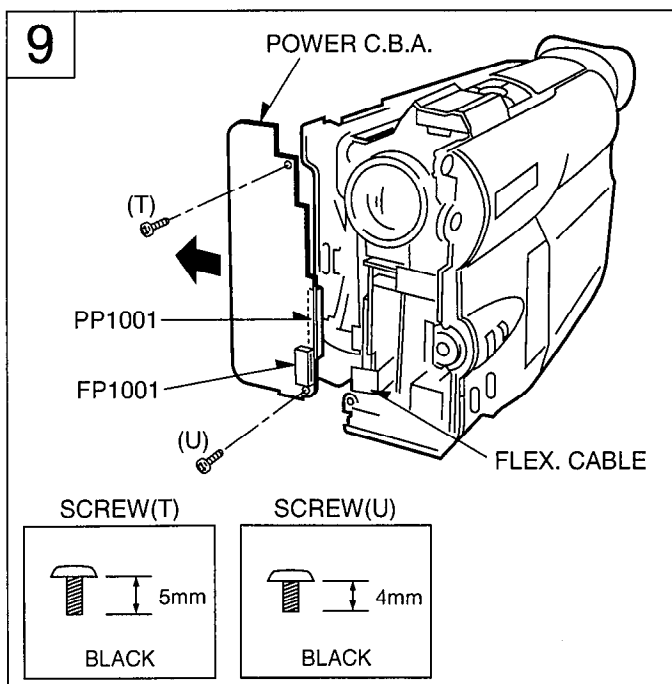


Fig. 9

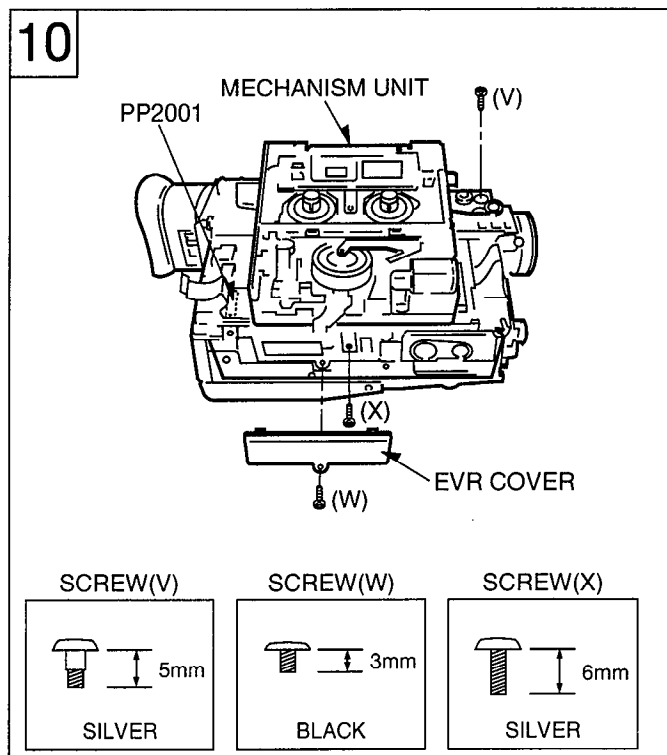


Fig. 10

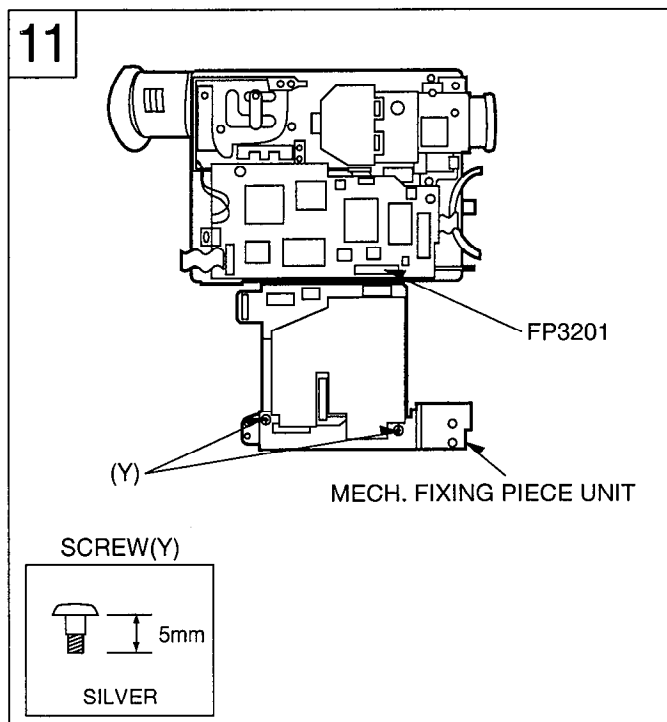


Fig. 11

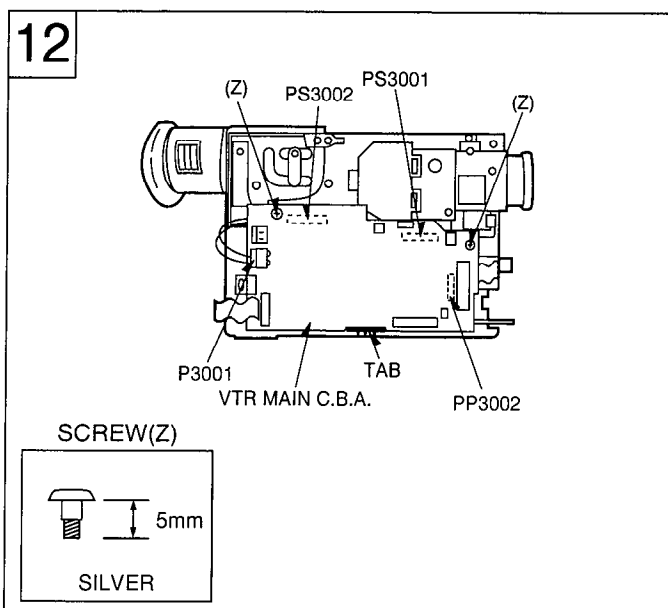


Fig. 12

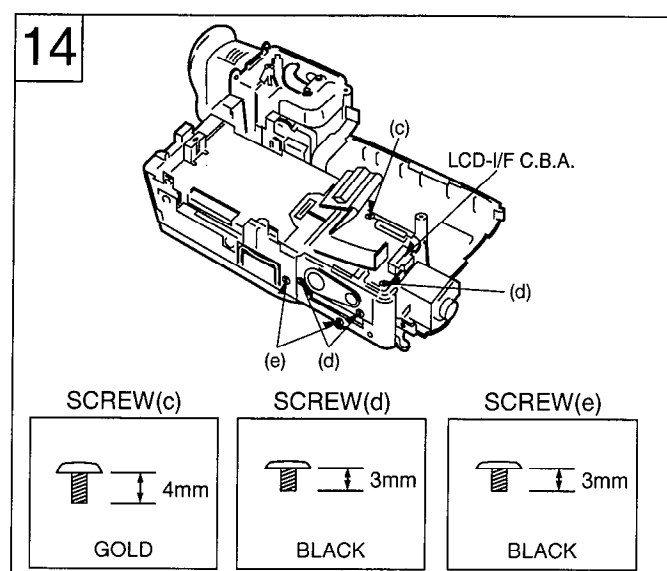


Fig. 14

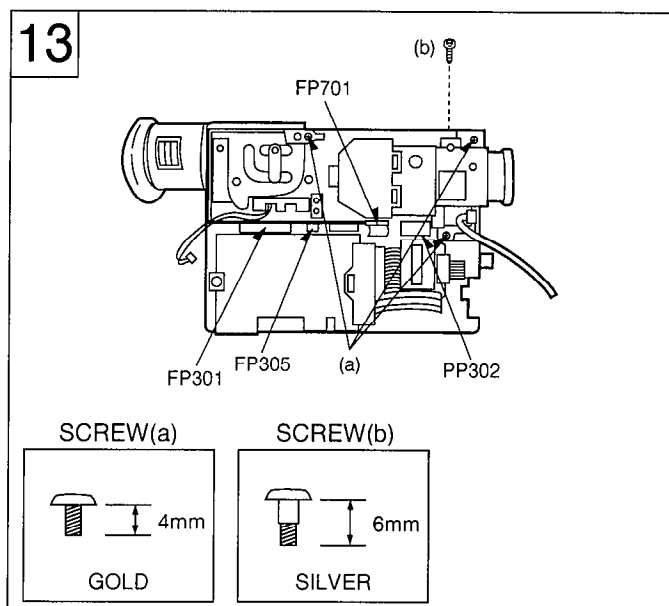


Fig. 13

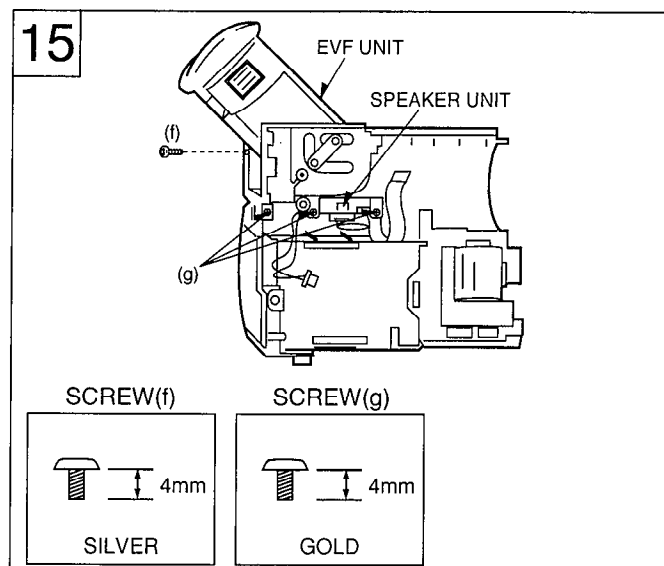


Fig. 15

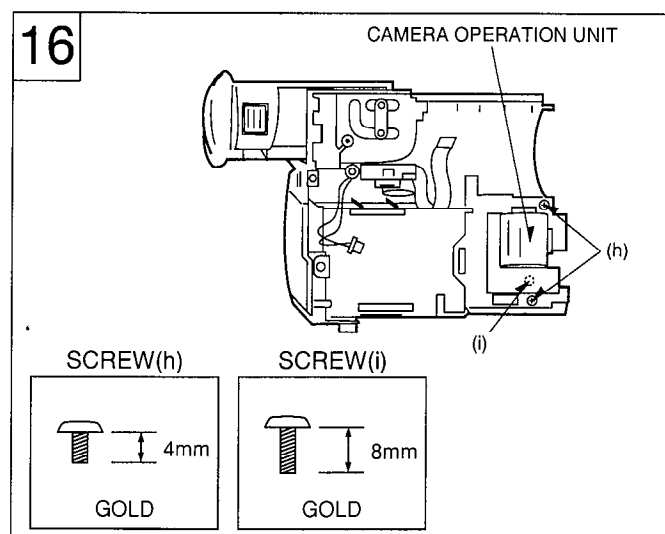


Fig. 16

SECTION 3

BLOCK DIAGRAMS & SCHEMATIC DIAGRAMS

3-1.ABBREVIATIONS

INITIAL/LOGO		ABBREVIATIONS	INITIAL/LOGO		ABBREVIATIONS	
A	A.TR	Auto Tracking		ATN	Absolute Track Number	
	AB0-4, AB12-15	Address Bus Line 0-4, 12-15		ATR OFF (H)	Auto Tracking Off (H)	
	ABSF	Focus Encoder Input		ATV	Advanced TV	
	ACI	Analog Channel Cording IC		AUDIO (N)	Audio (Normal)	
	AD	Auto Date, Analogue Digital Converter		AUX	Auxiliary	
	AD0-6, ADR0-6	Address Data Line		AVDD	Analogue VDD	
	ADCLK	Analogue Digital Converter Clock		AVSS	Analogue Ground	
	ADCNT	Analogue Digital Control		AWTB	Auto White Balance B-Y	
	ADCS	Analogue Digital Chip Select		AWTR	Auto White Balance R-Y	
	A-DET	Audio Detect				
	ADREC	Audio Delaied Rec		B	B/G OFF	AWT B-Offset Voltage
	ADUB	Audio Dubbing			BACK	Back-up
	AE	Auto Expose			BACK UP	Microcomputer Back-up
	AECNT	Auto Expose Control			BACK VDD	Back-up Power
	AEE (H)	Audio E-E (H)			BATT	Battery
	AEH	Audio Erase Head			BATT ALARM	Battery Alarm
	AEIRQ	Auto Expose Interrupt Request			BATT REF	Reference Voltage for Battery
	AF/MF	Auto Focus/Manual Focus			BCB	B Carrier Balance
	AF DIS CS	AF DIS Chip Select			BCBM (B-Y)	B-Y Carrier Balance
	AFAD E	Audio Fade	BCBM (R-Y)		R-Y Carrier Balance	
	A-FADE (L)	Audio Fade (L)	BD 0-7		Bus Data	
	AFCS	Auto Focus Chip Select	BDCK		Standerd Bus Data Clock (9MHz)	
	AF-VN	Zoom Encoder V-Ref (-)	BDEN		Standerd Bus Data Enable	
	AF-VP	Zoom Encoder V-Ref (+)	BF		Burst Flag	
	AGC	Automatic Gain Control	BFA		Burst Plug for Encoder	
	AGCCNT	Automatic Gain Control Control	BFO/BFI		Burst Plug Input/Output	
	AGND	Analogue Ground/Audio Ground	BI, BO		Buffer Input, Output	
	AGS	Anti Ground Shooting	BL		Back Light	
	AH (P) / (R)	Audio Head (Play) / (Record)	BL ON		Back Light ON (L)	
	AHASW	Audio Head Amp Switch Pulse	BL4V		Back Light 4V	
	AHSW	Audio Head Switch Pulse	BLC 0, 1		Back Light Y Control Out, In	
	AI, AO	Buffer Input, Output	BLDI/O		Back Light Drive Input/Output	
	AIBCK	Bit Clock (to A/D Converter)	BLK		Blanking Pulse	
	AIDAT	Serial data (to A/D Converter)	BLKA		Blanking for Encoder	
	AILRCK	L/R Clock (to A/D Converter)	BLKI/O		Blanking Pulse In/Out	
	AIMCK	Master Clock (to A/D Converter)	BLKZ		Blanking Pulse for Zoom	
	ALC CNT	Auto Level Control Control	BM		Balance Modulator	
	ALC MAIN	Auto Level Control Drive	BQUIET		Bus Data Quite	
	A-LOCK	Full Auto Switch	B-Y KB		B-Y Carrier Balance	
	AMUT	Audio Mute	B-YO	B-Y Signal Out		
	A-MUT (H)	Audio Mute (H)				
	ANLPTH	Analogue Loop Through High	C.	C A In/Out	Pre-Aperture In/Out	
	AORP	Audio Overlap Pulse		C CNT	Colour Control	
	APCNT	Aperture Control		C SYNC	Composite Sync Signal	
	APS	Auto Power Save		C/N	Carrier/Noise	
	ART VH	Artificial Vertical Sync		C0-7, C00-07	Chrominance Signal 0-7	
	AT CNT	Automatic Tracking Gain Adjust		CAGAIN	Aperture Gain Control	
	ATF	Automatic Track Finding		CAM	Camera	
ATFCLK	41.85MHz	CAM CLK		Camera Clock		
ATL	Auto Lock Select	CAM RST		Camera Reset		

INITIAL/LOGO	ABBREVIATIONS	INITIAL/LOGO	ABBREVIATIONS
CAM SIOC	Camera Serial In/Out Control	CO	Control Out
CAM T	Camera Test	CO0-7	Chrominance Output 0 to 7 (Digital)
CAM TL	Capstan Trque Limit	COM	Common
CAP EC	Capstan Trque Control	COMB	Comb Filter
CAP P (H)	Capstan Power On (H)	COS EQ	Cosine Equalizer
CAP R/F/S	Capstan Revers (H) /Stop (M) /Forward (L)	CP	Clamp Pulse
CAP SW	Capstan Power Control Switch	CP ON (H)	Camera Power On (H)
CAPSTP H	Capstan Stop Flag (Stop High)	CP2, 20	Clamp Pulse
CAPVM	Capstan Motor Current	CPN	Component Signal
CAPVS	Capstan Motor Power Control Switch	CPOB	Clamp Pulse for Optical Blanking
CAS	Compresion, Audio Process, Shuffling/Deshuffling	CPS	Composite Signal
CAS	Memory Address Strobe (Active Low)	CR OUT	Pre-Aperture Out
CASDOWN, DWN	Cassette Down (L)	CR POW SW	Camera Remote Power On Switch
CBLK	Composite Blanking Pulse	CRA	Aperture Gain Control
CC	Channel Cording	CRST	Camera Reset
CCA	Current Control Amp	CS	Chip Select
CCD	Charge Coupled Devise	CS 0-7	Chrominance Signal Out 0-7
CCW	Counterclockwise	CSEL	Clock Phase Select
CD SP0-7	Digital Chrominance 0-7	CSI 0-7	Chrominance Signal In 0-7
CDS	Correlate Double Sampling Signal	CTSW	Crosstalk Switch
CDS OUT	CCD Output Signal	CURR	Current
CDS1,2	Sampling Pulse for CCD Output signal	CW	Clockwise
CE	Control Pulse Erase	CYL EC	Cylinder Motor Trque Control
CEC	Capstan Error Code	CYL PG	Cylinder Motor PG
C-ERA (H)	Control Erase (H)	CYL VM	Cylinder Motor Current or Power
CFEM	Chrominance Memory Signal		
CFM	Chrominance Field Memory	D	D CLK
CG CLK	Character Generator Clock	D MODE	Digital Mode Switch Signal
CG DATA	Character Generator Data	D01-03	Zoom 01-03
CGC	Chrominance Gain Control	DAC	Digital Analogue Converter
CH	Charge	DAG	Digital Analogue Ground
CH1	Channel 1 (Odd Field)	DB0-7	Data 0-7
CHR	Character	DCC	DC Clamp Control
CHR BACK	Character Back-up	DCCNT	DC Control
CHR MIX	Character Mix	DCI	Digital Channel Cording IC
CI, CO	Buffer In/Out	DCLR	Digital Clear
CIF, CIR	Positive Control Pulse, Negative Control Pulse	DCP	Digital Clamp Pulse
CK	Clock	DCT	Discrete Cosine Transform (Compression)
CL/CLK	Clock	DCX7	Serial Data
CLASS	Classeffication Signal for Compress (DCT/VLC)	DEDP 0-3	Playback Data
CLK135	13.5 MHz System Clock	DEDR 0-3	Rec Data
CLK18	18 MHz System Clock	DEMP	De-Emphasis
CLK2	Clock 2 (824XFH : 12.875 MHz)	DFD0-7	Encode Input/Output Signal for Shuffling Memory
CLK27	27 MHz System Clock	DIBDCK	Bit Clock
CLX, CLX1-4	Shift Clock for X Direction (LCD Panel)	DICLK	Digital Clock
CLY	Shift Clock for Y Direction (LCD Panel)	DIDAT	Serial Data
CLY FG	Cylinder FG Signal	DILRCK	L/R Clock
CMEM0-3	Chrominance Memory 0-3	DIMCK	Master Clock
CMIX	Character Mix	DIOS	Select Signal for Digital In/Out
CMO	Chrominance Memory Output	DIS	Digital Image Stabilizer
CMODE	Camera Mode	DIS R/B	Digital Image Stabilizer Read (H) /Busy (L)
CNCLK	Clock	DIS/KAND	Digital Image Stabilizer/Sensitivity
CNR	Chrominance Noise Reduction	DISCS	Dis Chip Select
CNT, CONT	Control	DISP	Display

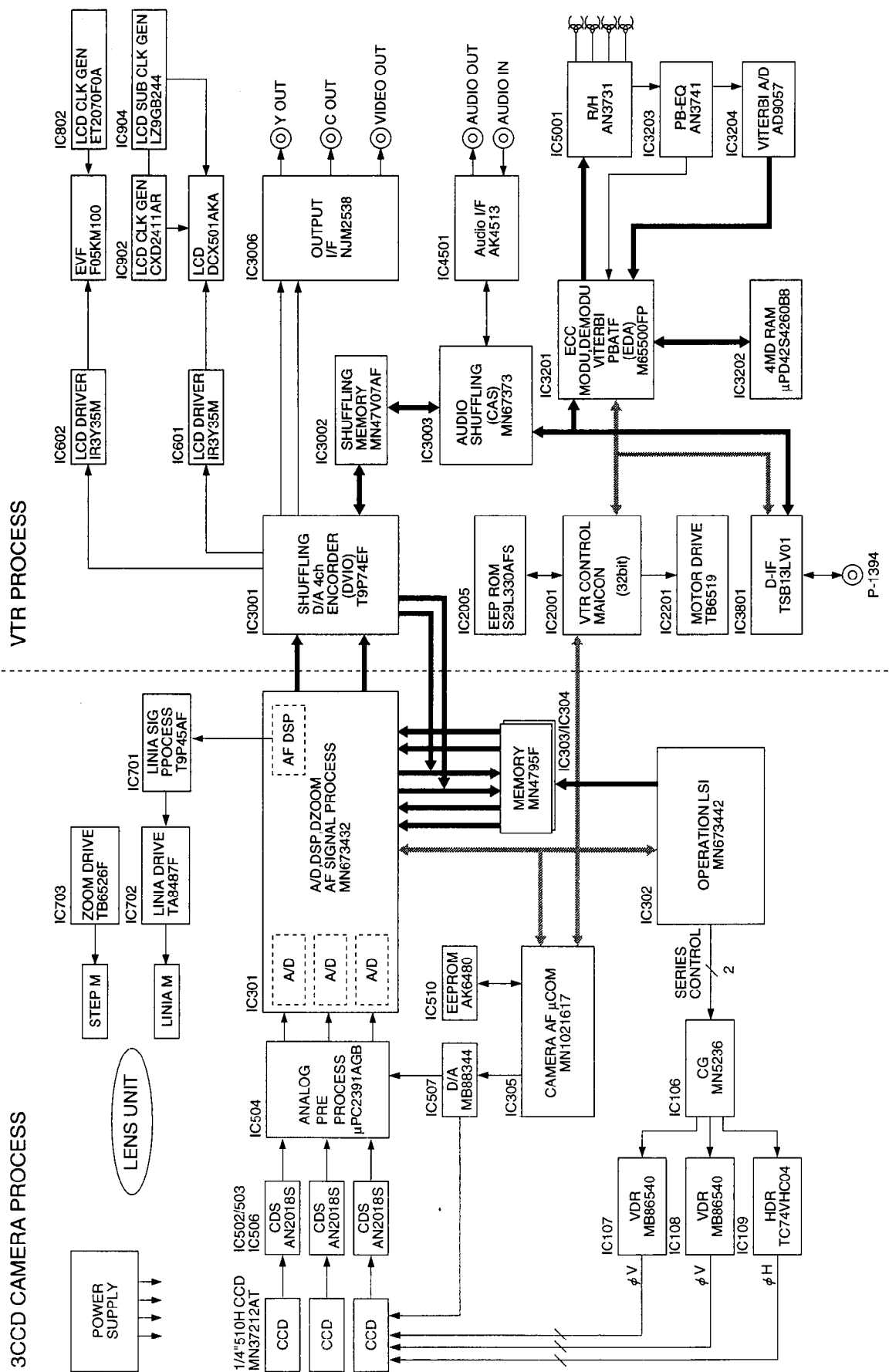
INITIAL/LOGO		ABBREVIATIONS	INITIAL/LOGO		ABBREVIATIONS
	DL	Delay Line		FCO	Saw Tooth Signal Generator
	DOBACK	Bit Clock (to D/A Converter)		FENC	Focus Encoder
	DOCTL	Data Output Control		FEND	Frame End Pulse
	DODAT	Serial Data (to D/A Converter)		FH2B	FH/2 (15.625 KHz/2 = 7.8125 KHz)
	DOLRCK	L/R Clock (to D/A Converter)		FIX OSD	Auto Tracking Off (H)
	DOMCK	Master Clock (to D/A Converter)		FM	Field Memory
	DQ 1-16	Memory Data		FM0-7	Field Memory 0 - 7
	DRK	Dark (LPF Switch for Auto Focus)		FMCI0-3	Field Memory Chrominance In 0-3
	DS	Double Sampling Pulse		FMCO0-3	Field Memory Chrominance Out 0-4
	DS1, 2	Double Sampling Pulse		FMDIR	Focus Motor Direction
	DSF 0-7	Input/Output Data to Shuffling Memory (18 MHz)		FMOEM	Field Memory Enable
	DSP	Digital Signal Processor		FMOEO	Field Memory Enable
	DSV	Digital Sum Variation		FMT1-4	Focus Motor Terminal 1-4
	DV	Digital Video		FMY00-07	Field Memory Luminance Out 0-7
	DVB	Digital Video Broadcast		FMY10-07	Field Memory Luminance In 0-7
	DVC	Digital Video Cassette		FNO	F Value
	DVDD	Digital VDD		FPS	Frame Reference Signal
	DVIO	Digital Video Input Output		FR	Capstan Reverse High
	DVSS	Digital Ground		FRP	Frame Reference Pulse
	DX	Shift Data for X Direction (for LCD)		FRP	Frame Start Pulse
	DY	Shift Data for Y Direction (for LCD)		FRPSO	Frame Start Pulse
	DZ	Digital Zoom			
E	E Snap	Electric Snap Shot	G	G1,G2,G3	Gap 1, 2 and 3
	E ZM	Electric Zoom		GCA	Gain Control AMP
	E2P	EEPROM		GCNT	Gain Control
	EARP	Earphone		G-CNT	AGC Adjustment
	EC	Error Control		GCTRL	Gain Control
	EC	Torque Control		GENE	Generator
	ECC	Error Correction Coding		GF	FG AMP Terminal
	ECM	Electric Condenser Mic		GSW	Ground for Switching Power
	ECR	Reference Voltage for Capstan Torque	H	H/M/N	Hi-Fi/Mix/Normal
	EDA	Error Correction, DCI, ATF Servo		H/N	Hi-Fi/Normal
	EE CS	EEPROM Chip Select		H1,2	H. CCD Drive Pulse
	EE R/B	EEPROM Read (H) /Busy (L)		HAP	Horizontal Aperture
	EEPROM	Electric Erasable Programmable Read Only Memory		HASW	Head AMP Switching Pulse
	EIS	Electric Image Stabilizer (DIS)		HB	Hall Bias
	ENV	Envelope		HBR SET	High Brightness Set
	EOB	End Of Block		HBRST	High Brightness Set
	EQ	Equalizer		HCLR	High Clear
	EVF	Electric View Finder		HCP	Shift Clock for Horizontal Drive
	EXT DC	External DC (AC Adaptor)		HD	Horizontal Drive Pulse
	EXT DC (H)	AC Adaptor DC (H)		HDTV	High Definition TV
	EXT NOREG	AC Adaptor 6V		HEX	Hexadecimal
	EXT S DATA	Serial Data for Edit		HG	Hall Gain
	EXT SCK	Serial Clock for Edit		HID	Head Switching Pulse
	EZOOM	Electric Zoom		HLT	High Bright Signal
				HOLE IN (+) , (-)	Input Signal from Hall IC
				HP	Headphone
				HPF	High Pass Filter
F	F	Far (Focus)		HSE	Modulated Data Output
	F ENC	Lens F-Value		HSS	Horizontal Sinc Signal
	FACT MODE	Factory Mode (not used in the service)		HSW	Head Switching Pulse
	FB	Feed Back		HS-WT	High Speed Zoom
	FC	Saw Tooth Signal In			
	FCK	Clock			

INITIAL/LOGO		ABBREVIATIONS	INITIAL/LOGO		ABBREVIATIONS
	HSZ	High Speed Zoom		MIG	Metal In Gap
I	I/F	Interface		MIX N.R.D.	Non Rec Data Mix
	I-2 C	Inter Integrated Circuit		MOD	Modulation
	ID (H)	Wide Television (H)		MOUT	Mic Out
	IMP	Inter Microprocessor Protocol		MP (TAPE)	Metal Particle (Tape)
	INF	Input Frame Signal		MPEG	Moving Picture Image Cording Experts Group
	INF	CCD Input Signal 1		MPEG2	Moving Picture Image Cording Experts Group Phase 2
	INS	CCD Input Signal 2		MRST	Focus Motor Reset
	INTER	Interval Recording		MSB	Most Signal Bit
	INV	Inverter		MVSYNC	Monitor Vertical Sync Signal
	IOU	R-Y Analogue Signal Output	N	N	Near (Focus)
	IOV	B-Y Analogue Signal Output		N/F	Near/Far Focus
	IOY	Y Analogue Signal Output		N/P	NTSC/PAL
	IR	Infrared Rays		NB1-3	Base for NPN Transistor
	IRDET	Infrared Rays Detection		NC	No Connection
	IREF	Current Adjustment Terminal		NC1-3	Corrector of NPN Transistor
	IRIS/SH	Iris/Shutter Control		NCLR	Power On Reset
	IRQ	Interrupt Request		NCP1	Clamp Pulse
	ITI	Insert & Track Information		NCP2+VDH	Clamp Pulse + Horizontal Drive Pulse
				NCP2+VDM	Clamp Pulse + Gate Pulse
				NDE	Non Liner De-Emphasis
				NE	Emitter of NPN Transistor
				NLE	Non Liner Emphasis
				NR	Noise Reduction
				NRD	Non Rec Data
				NRD BLK	Non Rec Data Blanking
J	JPEG	Joint Photographic Image Cording Experts Group		NRD CLK	No Rec Data Clock
K	KANDO	Digital Gain Up		NRE	Read Enable Input (Low Active)
	KB	Carrier Balance		NWE	Write Enable (Low Active)
	KEY IN	Key Scan			
	KND	Digital Gain Up			
	KNEE	Luminance Compensate			
L	LCD	Liquid Crystal Display	O	OB	Optical Black
	LCD P (L)	LCD Power On (L)		OBCNT	Optical Black Control
	LD	Load Pulse		OBREF	Reference Voltage for Optical Black Control
	LDD	Liquid Direct Drive		OE	Output Enable
	LEDCNT	LED Control		OFH	Horizontal Counted Down Clock Signal (Reference)
	LI-BATT	Lithium Battery		OFS	Offset
	LOAD	Loading		OP	Operation AMP Output
	LOAD F, R	Loading Direction (F:Forward/R:Reverse)		OSD	ON Screen Display
	LPF	Low Pass Filter		OVL	Overlap Pulse
	LRMONO	Monoral Audio (L + R)		OZ	Optical Zoom
	LSB	Least Significant Bit			
	LVL	LPF Switch for Auto Focus			
M	MA0-5	Microprocessor Address Data 0-5	P	PB1-3	PNP Base 1-3
	M1-3	Motor Coil Terminal 1 to 3		P SW	Power Switch
	Mbps	Megahertz Bit Per Second		PBCTL	Play Back Control
	MD	Modulation		PBCTL	Pre-Blanking Control
	MD0-7	Microprocessor Data 0-7		PBH	Head Amp Switch
	MDT0-7	Microprocessor Data 0-7		PBLK	Pre-Blanking (Pulse)
	ME (TAPE)	Metal Evaporated (Tape)		PC1-3	Corrector of PNP Transistor
	MENB	Focus Motor Enable		PCBM	Carrier Balance
	MFF	Manual Focus Far		PCH	Phase Compensator (Hall AMP)
	MFN	Manual Focus Near		PCI	Phase Compensator (Current)
	MHSYNC	Monitor Horizontal Sync Signal		PCO	Phase Compensator Out
	MIC	Memory In Cassette		PCS	Switching Power Control

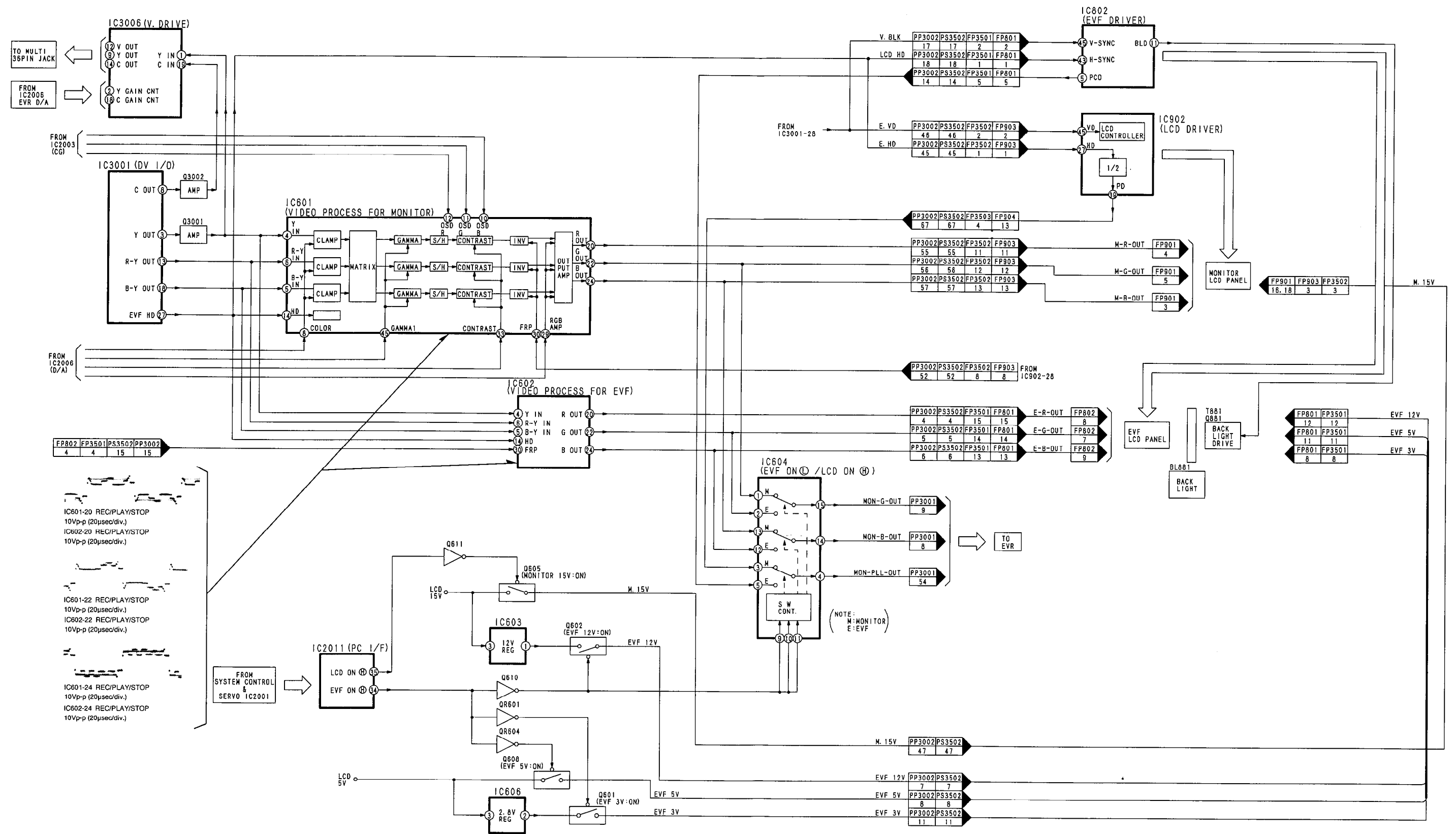
INITIAL/LOGO		ABBREVIATIONS	INITIAL/LOGO		ABBREVIATIONS
	PCV	Phase Compensator (Voltage)		RVCO	Resister for Oscillation
	PE	Emitter of PNP Transistor		RW	Read Write
	PED	Pedestal		RWAE	Read Write Enable
	PEDECNT	Pedestal Control		R-YKB	R-Y Carrier Balance
	PENO	Alarm (L)			
	PFP	Pilot Frame Position	S	S PHOT	Supply Photo Transistor
	PGA, B	Power Ground A, B		S/H	Sampling Hold
	PGC	Pulse Generator Comparator		S/S	Start/Stop
	PGI	Pulse Generator Input		SBD	Serial Data
	PGMM	Pulse Generator Monostable Multivibrator		SBI	Serial Data Input
	PGO	Output of Pulse Generator AMP		SBO	Serial Data Output
	PMODE	Select Signal for Normal/Wide Screen		SBT	Serial Clock
	PON	Power On		SCAN0-5	Key Scan 0-5
	POR	Power On Reset		SCK	Serial Clock
	POSCOM	Common Position		SCR	Search
	PREAMP	Pre-AMP		SCR, S.C.R	Still Cue Review
	PREBLK	Pre-Blanking		SEG.	Segment
	PT	Protect for V Voltage		SET	White Balance Set
	PWM	Pulse Width Modulation		SH/IRIS	Shutter/Iris Control
	PWMB	Pulse Width Modulation Pulse		SHIFT	Capasitor for Phase Shift
				SI	Serial Data Input
Q	Q2H	Source Output Select		SIOC	Serial In/Out Control
				SNAP	Snap Shot
R	R CTL P	Recorded Control Pulse (+)		SNS LED	Sensor LED
	R CTL R	Recorded Control Pulse (-)		SO	Serial Data Output
	R/B	Read/Busy		SPA	ATF Sampling Pulse
	R/L	Direction Control for Data Transmition		SPEN	8 Bit Shift Register Enable
	RA	Recording AMP		SPK	Speaker
	RA1	Rec AMP 1		SPO	Reset for Switching Power
	RAC AC	Rec Audio Current		SPST	8 Bit Shift Register Strobe
	RAD	Read Address Data		SREELP	Supply Reel Pulse
	RAE	Read Address Enable		SRT	Start
	RB	Read Busy		SSA	Start Sync block Area
	R-B	R Bias		SSW	Select Signal for Low Pass Filter
	RCB	R Carrier Balance		ST5V	Safety Tab 5V
	RE	Read Enable		STAB	Safety Tab Switch
	RE (F) , (S)	Rotary Erase Head Transformer		STB	Stand by Signal
	REB	R Bias		STB	Strobe
	REC CC	Rec Current Control		SWB	Switching Pre-Drive Pulse
	REC CCNT	Rec Current Control		SYL EC	Cylinder Torque Control
	RECCTRL	Recording Control Pulse		SYL FG	Cylinder FG
	RECI	Rec Amp Switch			
	RENCF	Lens Control (Forward)	T	T	Tele (Zoom)
	RENCR	Lens Control (Reverse)		T PHOT	Take-up Photo Transistor
	RERASE	Rotary Erase Head		TBC	Time Base Conntrol
	RGBIV1-2	1V Inverted Signal 1-2		TFT	Thim Film Transistor
	RGO R/G OFF	Offset Voltage For AWT R		TH	Thermostat for Battery
	RSF	Capstan Direction (Reverse/Stop/Forward)		TI	Test Mode Select
	RST	Reset		TL	Torque Limit
	RSTB	R Strobe		TM	Sub Code
	RSTPWD	Reset Power Down Input		TMD	Sub Code Data
	RSTR	Reset Read		TRE	Tracking Error Signal
	RSTW	Reset Write		TREEL (P)	Take-up Reel (Pulse)
	RT	Saw Tooth Terminal		TRFIX	Tracking Fix

INITIAL/LOGO		ABBREVIATIONS	INITIAL/LOGO		ABBREVIATIONS
	TRIWAVE	Tracking Wave	W	VSSX	X Driver Power for Colour LCD
	TRP	Tracking Position		VSSXY	X-Y Driver Power for Colour LCD
	TRP	Trap			
	TSR	Head Switching Reference			
	TST	Time Scale Transfer			
U	U/V SEL	R-Y/B-Y Select Signal	W	W	Wide (Zoom)
	UNLOAD	Un-Loading		W/N	Mode Select for Window Mode
	UNRE	Microprocessor Read Enable		W/N	Wide/Normal
	UNWE	Microprocessor Write Enable		WAD	Write Address Enable
	UV	R-Y/B-Y		WAE	Write Address Enable
	UV SEL	R-Y/B-Y Select Signal		WAERAE	Write Address Enable
V	V1-V4	V.CCD Drive Pulse		WARI	Interrupt
	VB	VH Filter Switching		WB	White Balance
	VCE	Power Terminal		WE	Write Enable
	VCNTL	Video Control		WEM	Memory Write Enable
	VCO	Voltage Control Oscillator		WHD	Wide Horizontal Drive Pulse
	VCP	Shift Clock Output for Vertical Drive		WIDE A	Wide Zoom
	VCTLD	Video Control		WSB	B AGC Control
	VCTRL	Voltage Charge Control		WSR	R AGC Control
	VD	Vertical Drive Pulse		WTV	Wide TV
	VDDX	X Drive Power for Colour LCD	X	XP	FG Logic Reset
	VDDXY	XY Drive Power for Colour LCD			
	VDDY	Y Drive Power for Colour LCD	Y	Y FM0-7	Y Field Memory 0-7
	VDREC	Video Delayed Rec		YCE	Cylinder Error Code
	Vgg	Voltage for Gate IC		YGC	Y Gain Control
	Vgl	Gate off Voltage		YMO 0-7	Y Field Memory 0-7
	VID	Video Signal Out		YNCST	Noise Canceller
	VIN	Video In		YNR	Luminance Noise Reduction
	VITC	Vertical Interval Time Code	Z	YSDP 0-7	Digital Y Out 0-7
	VITERBI	One of Signal Detection Method		Z.ENC	Zoom Encoder
	VL	Low Voltage		Z.MIC	Zoom Mic
	VLC	Variable Length Cording		ZENC	Zoom Encoder Output
	VLOCKP	Artificial Sync Pulse		ZMDIR	Zoom Drive
	VLP	Artificial Sync Pulse		ZMEN	Zoom Enable
	VM	Motor Voltage		ZMT	Zoom Motor Tele Side
	VMD	Velocity Mode Data		ZMT (+)/(-)	Zoom Motor (+)/(-)
	VMD1-3	Electric-Shutter Mode		ZMTER	Zoom Motor Tele Side
	VMODE	NTSC/PAL Select Switch		ZMW	Zoom Motor Wide Side
	VMVH	VH Filter Switching		ZSW	Zoom Switch
	VORP	Video Overlap			
	VRB	Voltage Reference Bottom			
	VRBS	Voltage Reference Bottom Output			
	VREF1R3V	Reference Voltage 1.3V			
	VREF3R3V	Reference Voltage 3.3V			
	VREFH	Reference Voltage High Side			
	VREFL	Reference Voltage Low Side			
	VRI	Reference Voltage Input			
	VRO	Reference Voltage Output			
	VRT	Voltage Reference Top			
	VRTS	Voltage Reference Top Output			
	VS	Switching Comparator			
	VSS	Vertical Sync Signal			

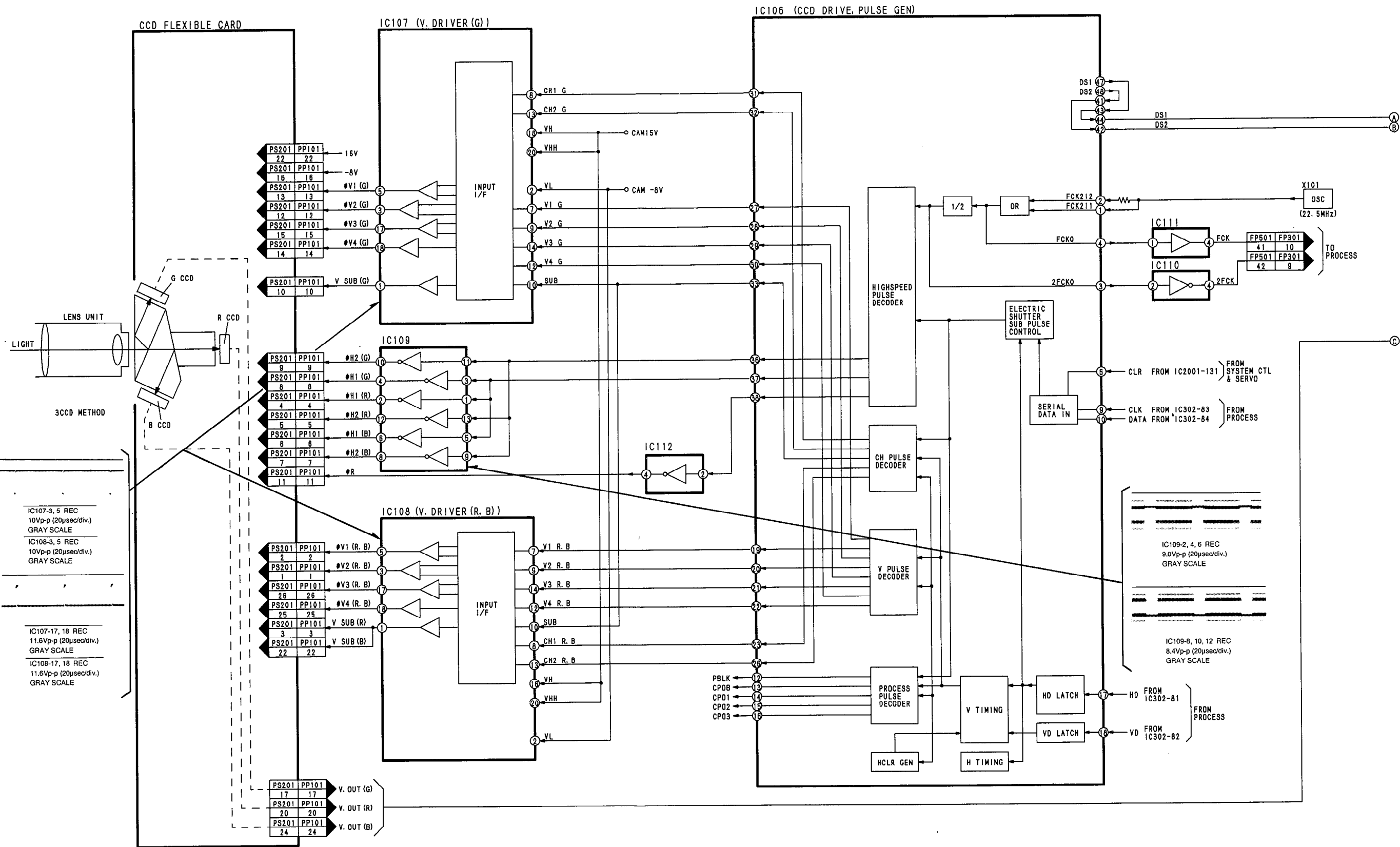
3-2. OVERALL BLOCK DIAGRAM

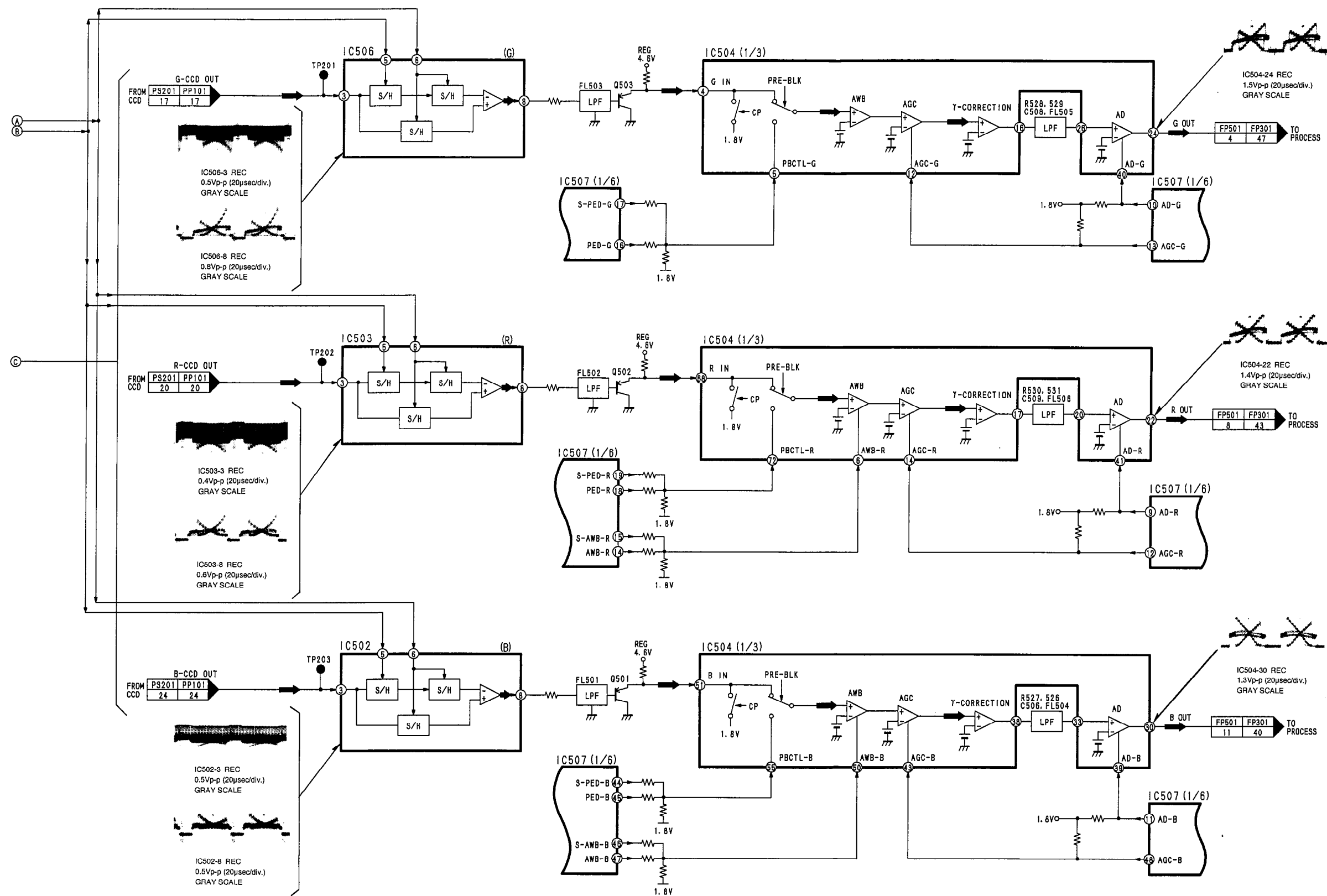


3-3. EVF & LCD MONITOR BLOCK DIAGRAM

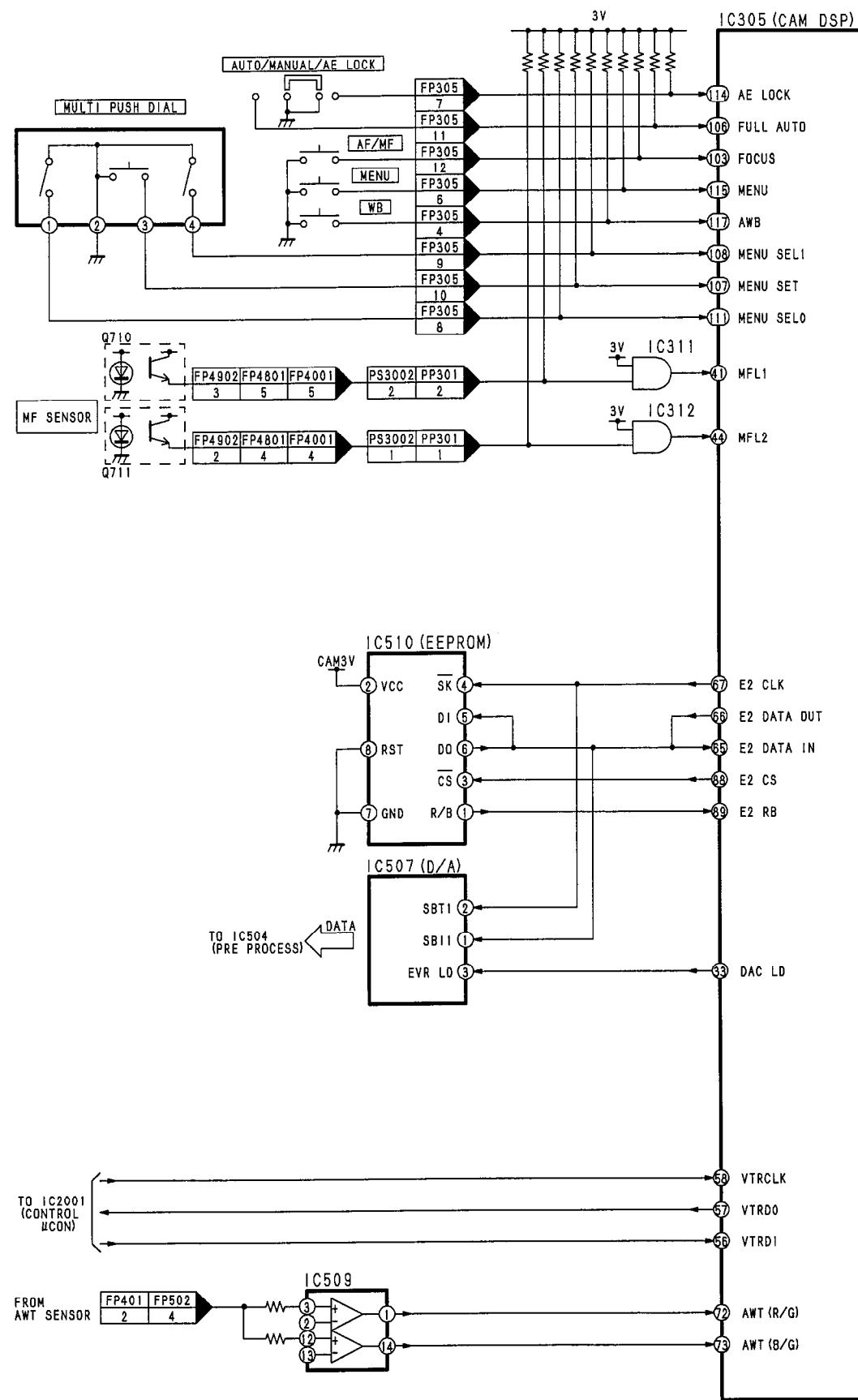


3-4. CCD DRIVE BLOCK DIAGRAM

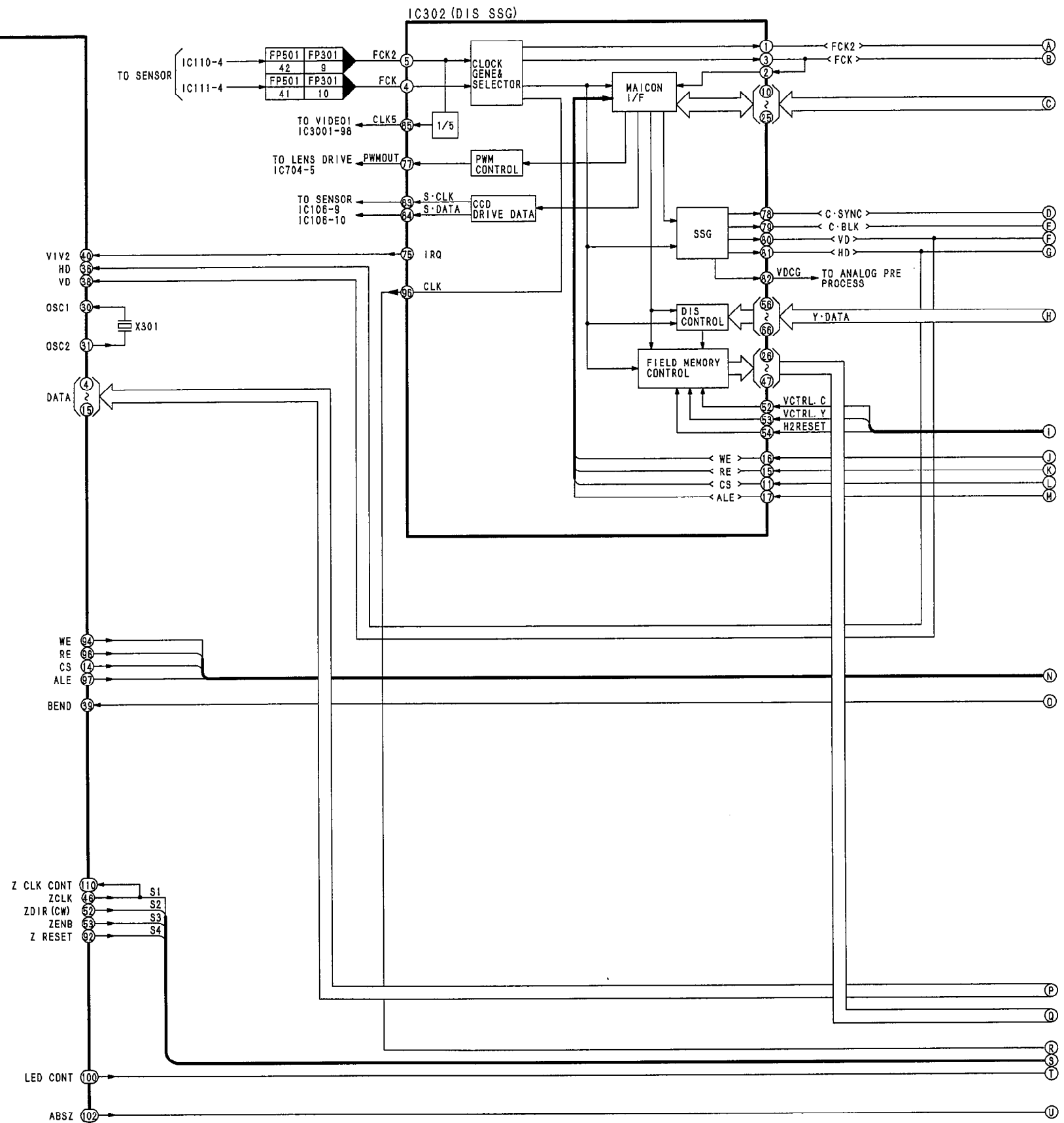


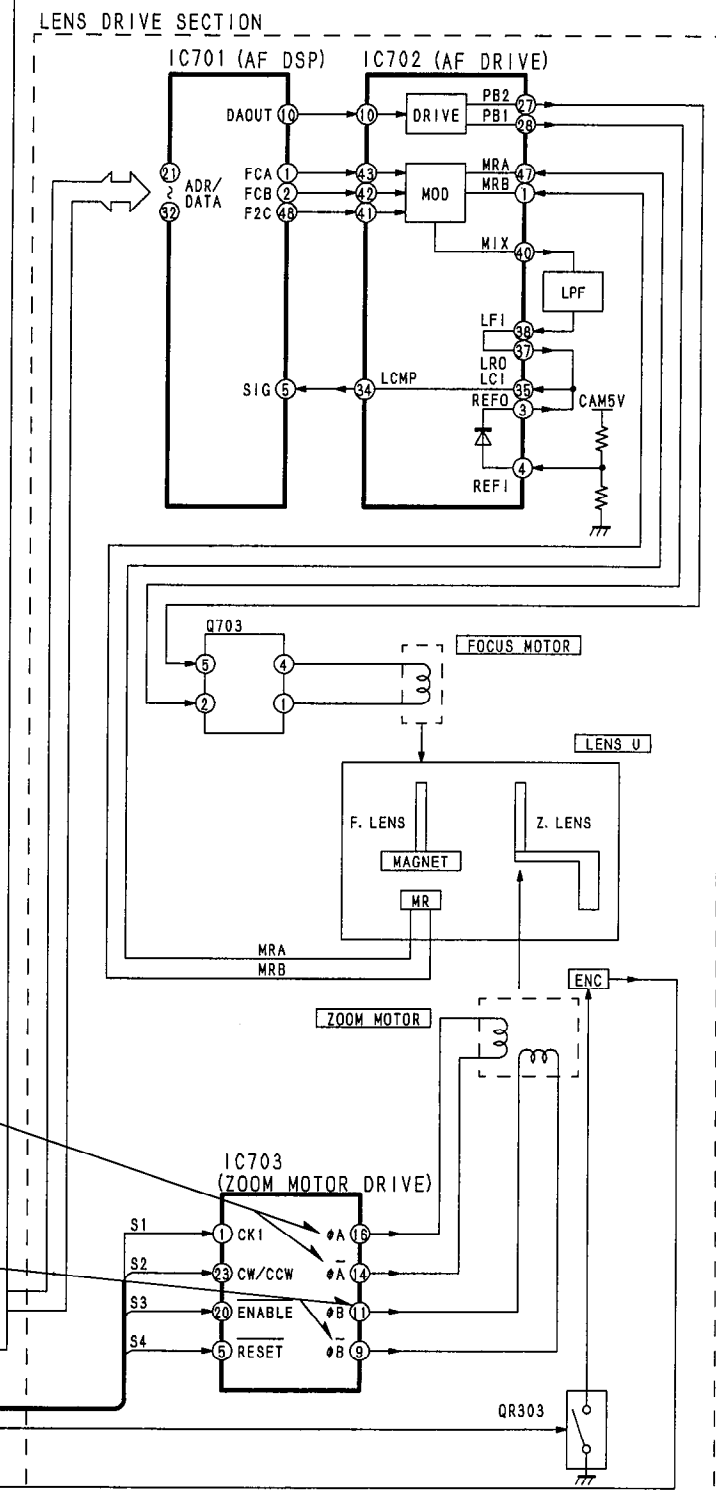
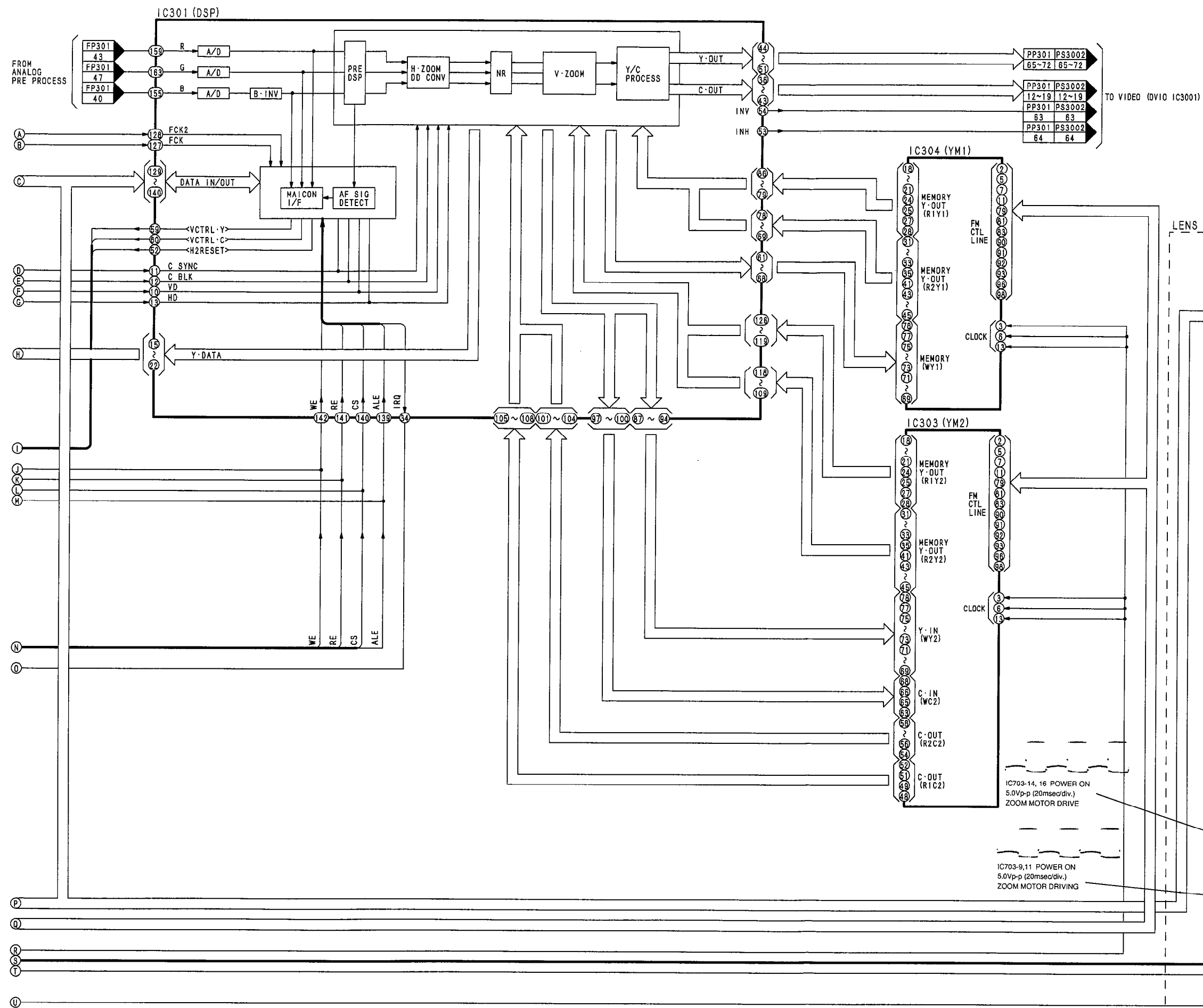


3-5. PROCESS BLOCK DIAGRAM

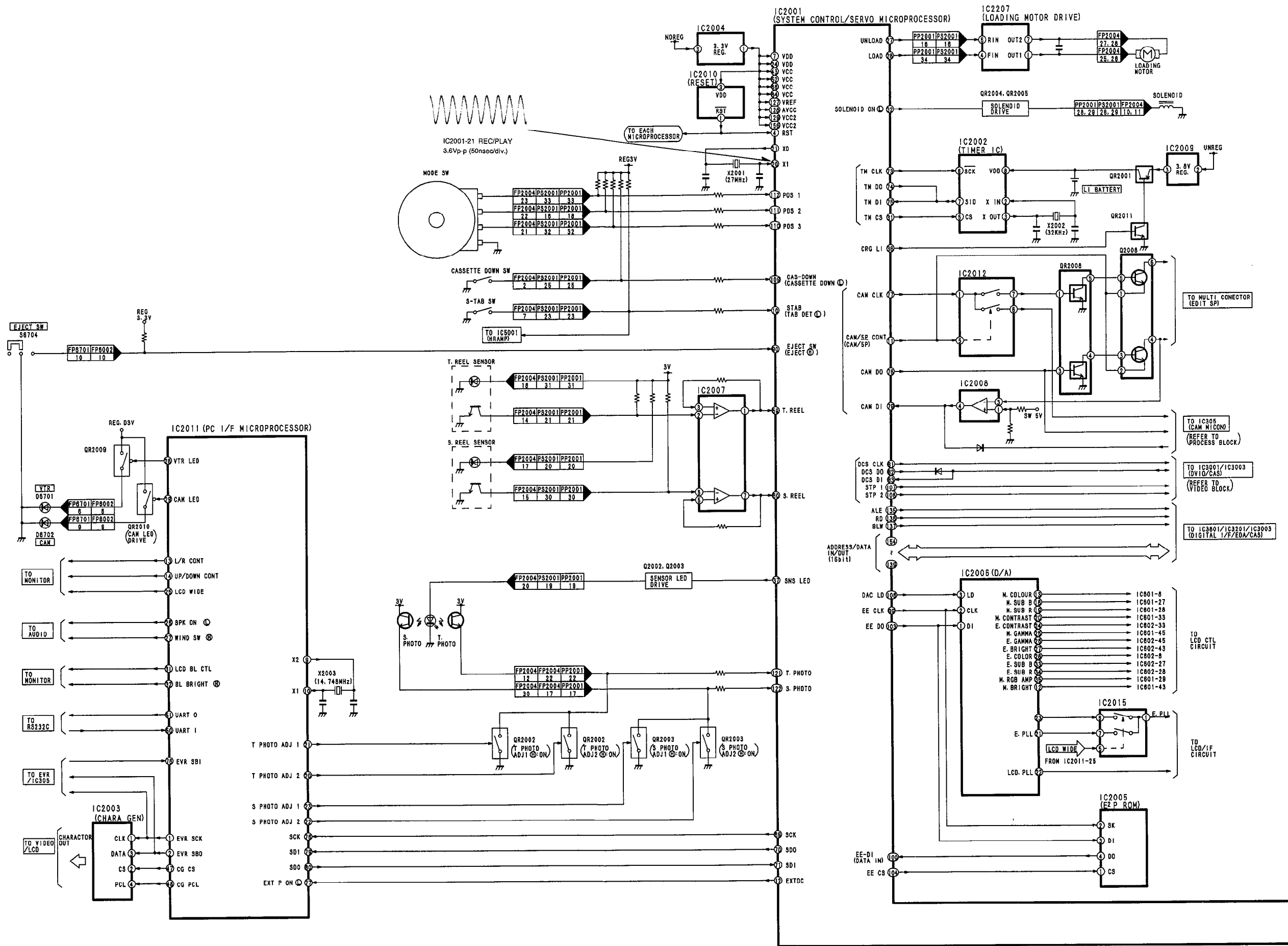


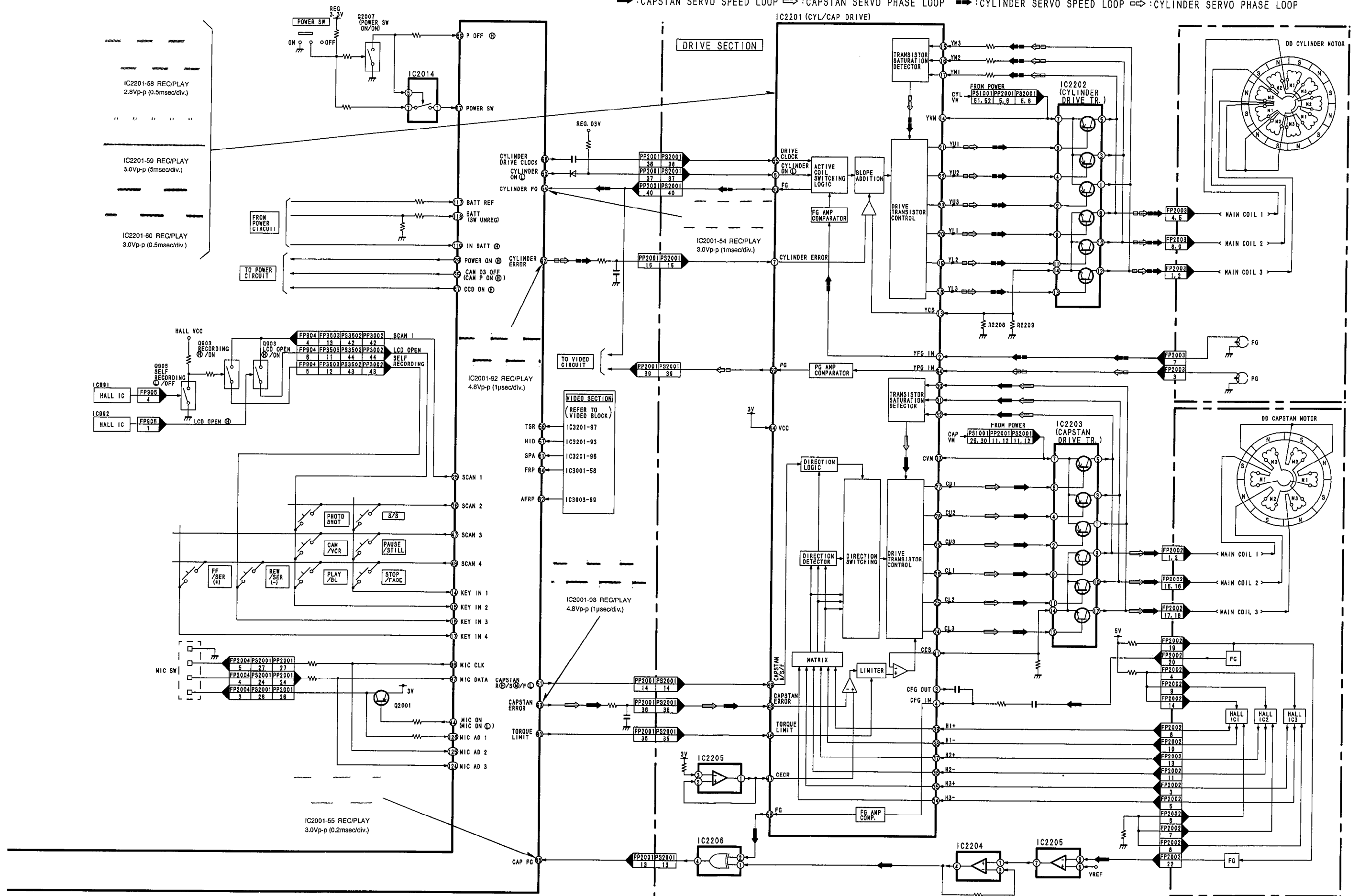
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CCD DRIVE Section



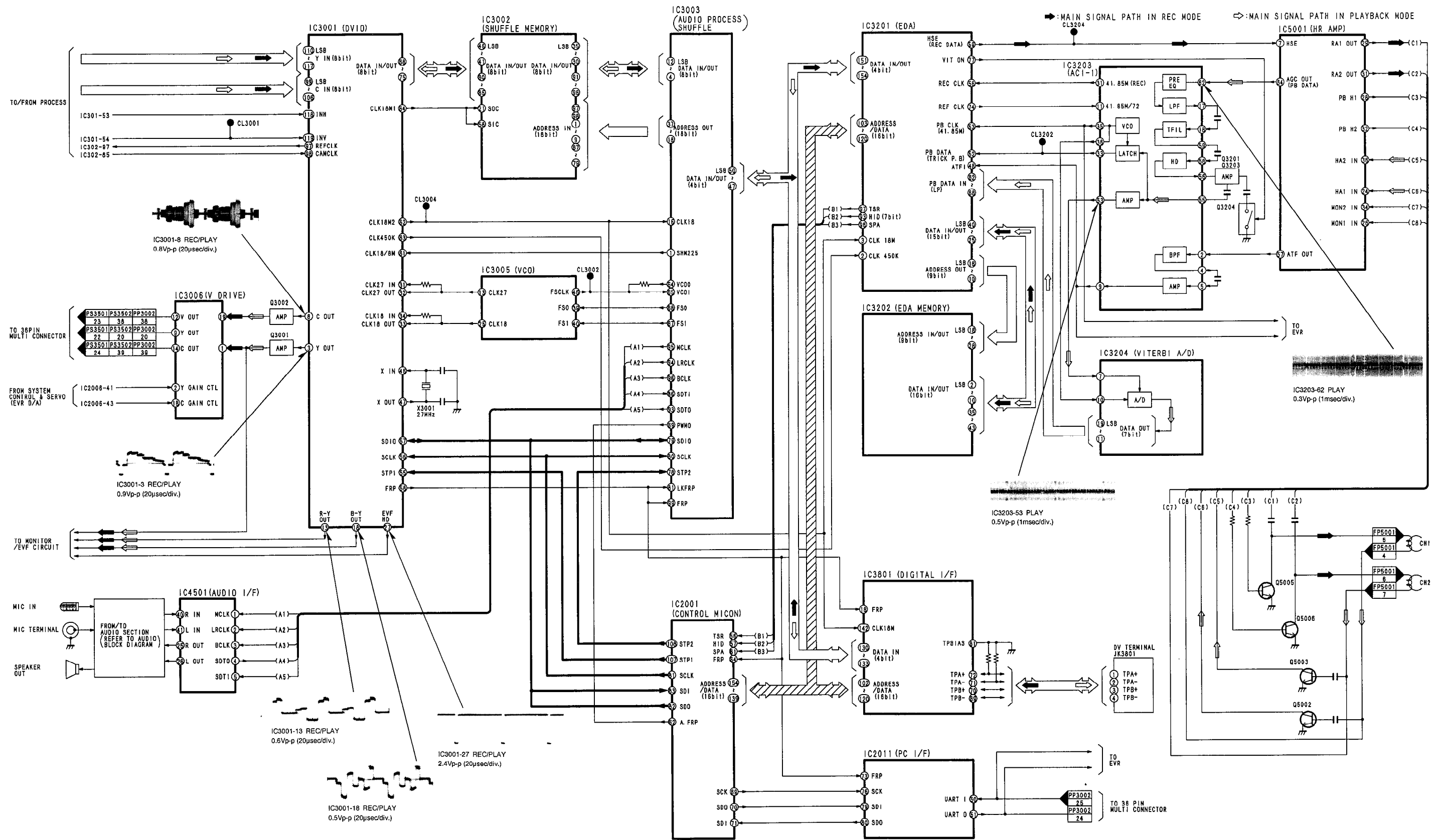


3-6. SYSTEM CONTROL & SERVO BLOCK DIAGRAM

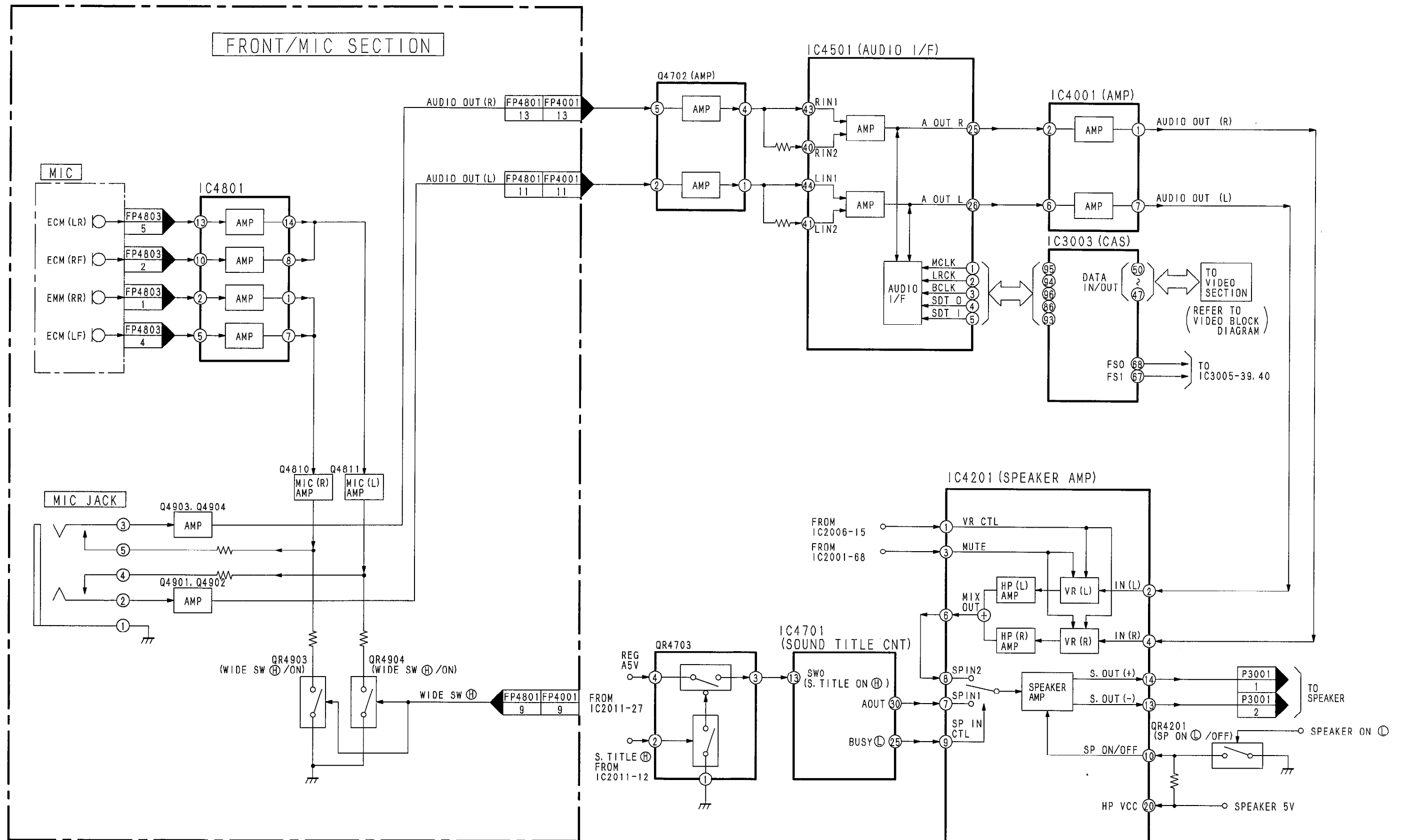




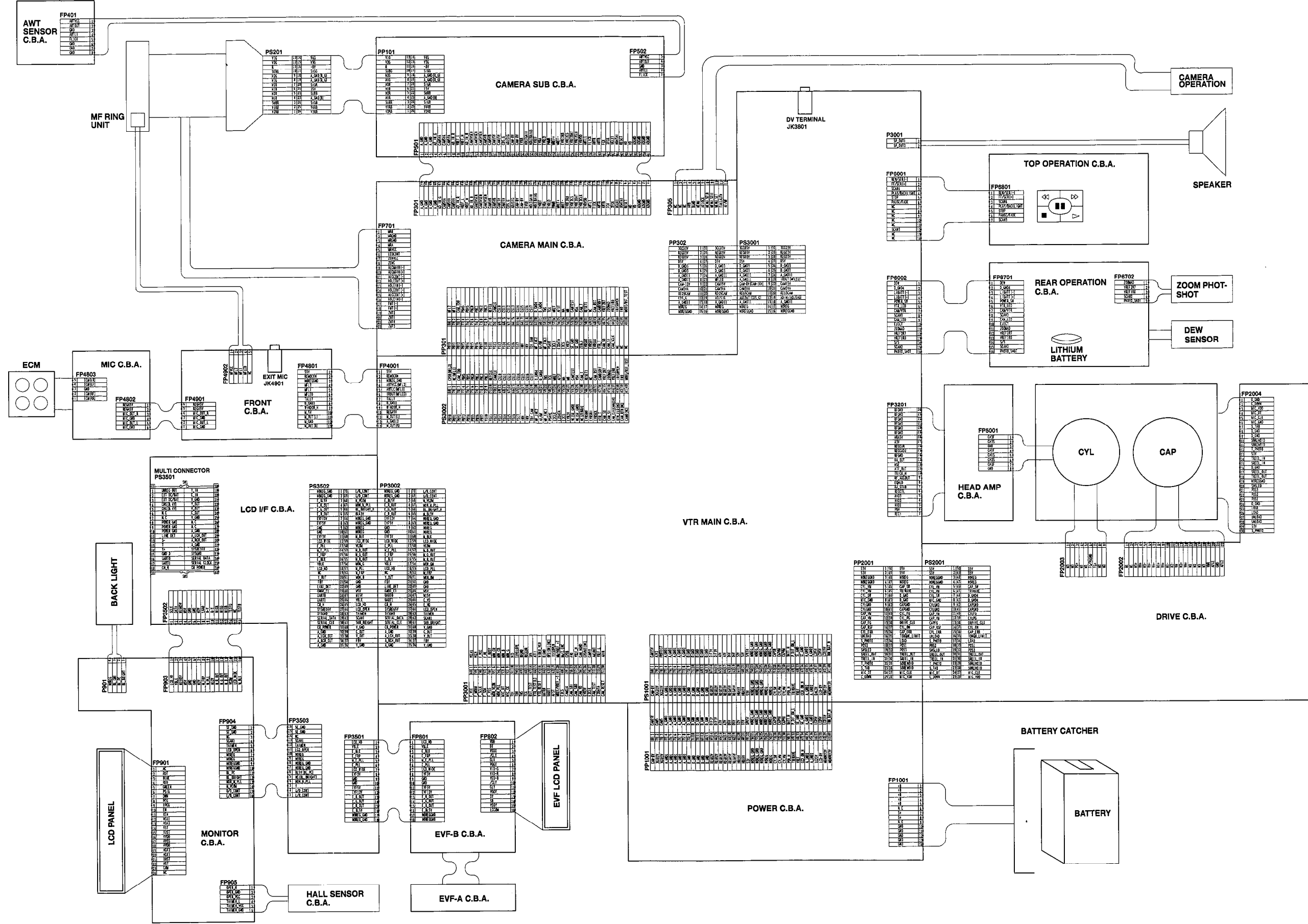
3-7. VIDEO BLOCK DIAGRAM



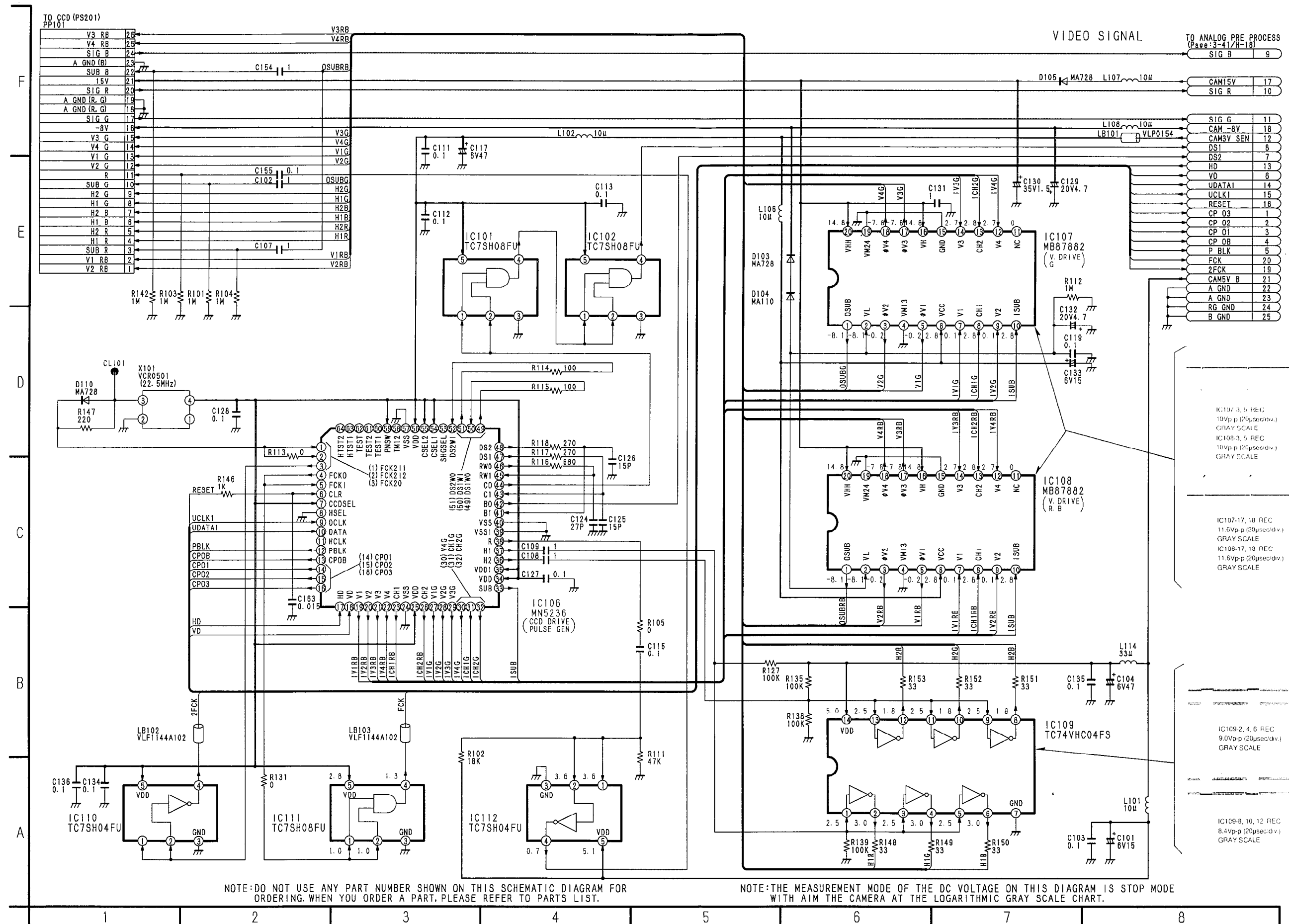
3-8. AUDIO BLOCK DIAGRAM



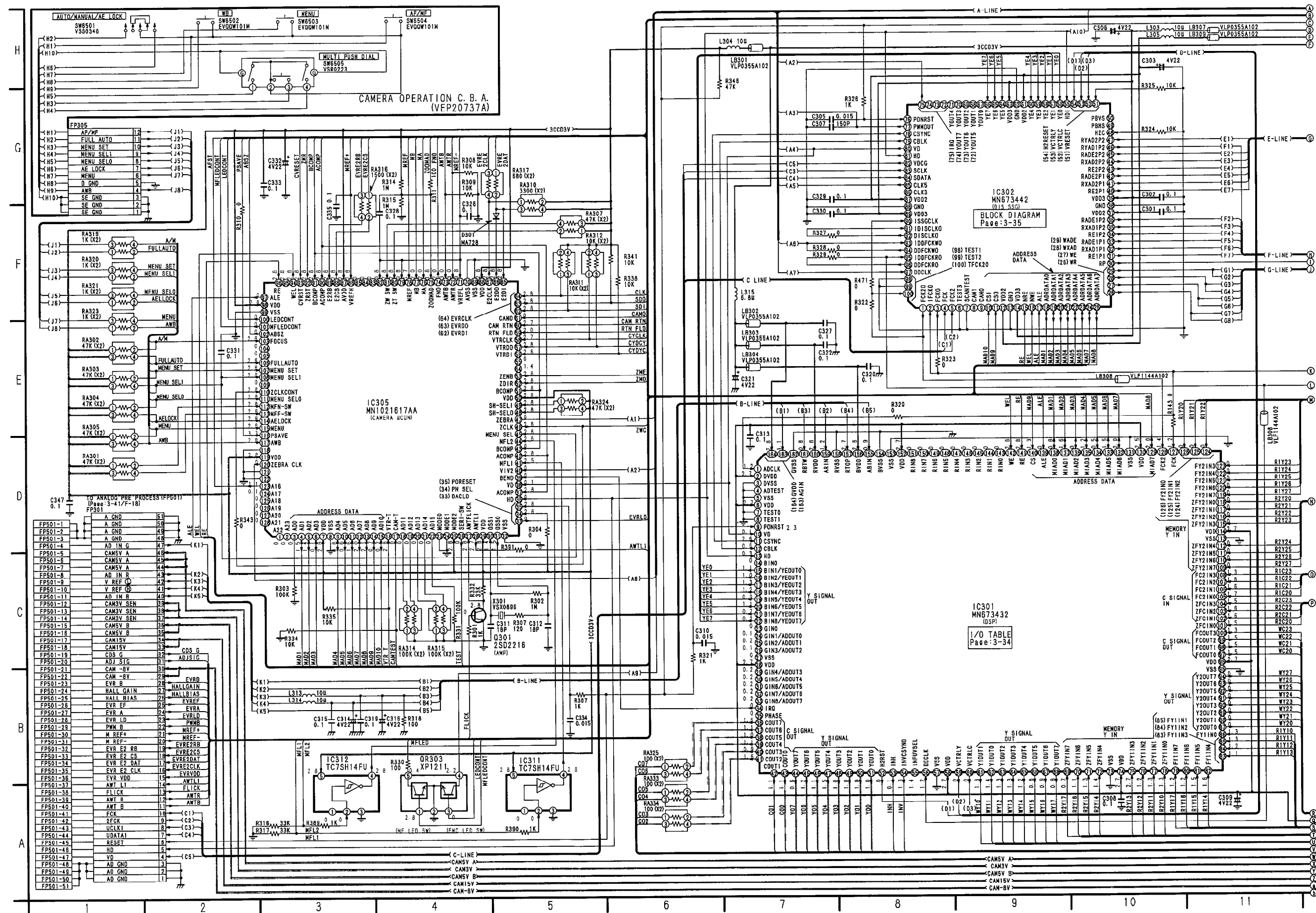
3-9. INTERCONNECTION SCHEMATIC DIAGRAM

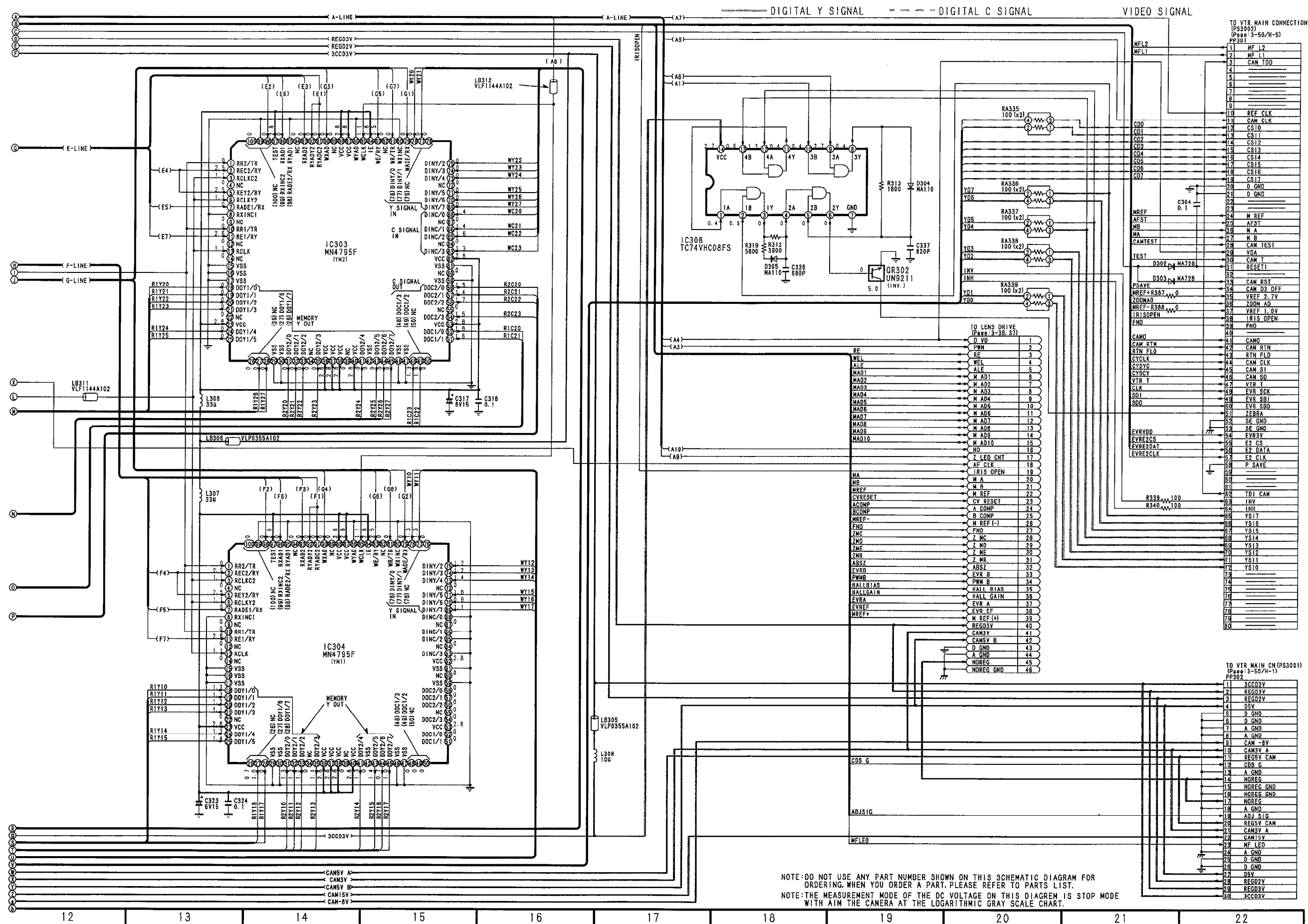


3-10. SENSOR SCHEMATIC DIAGRAM



3-11. PROCESS & CAMERA OPERATION SCHEMATIC DIAGRAM





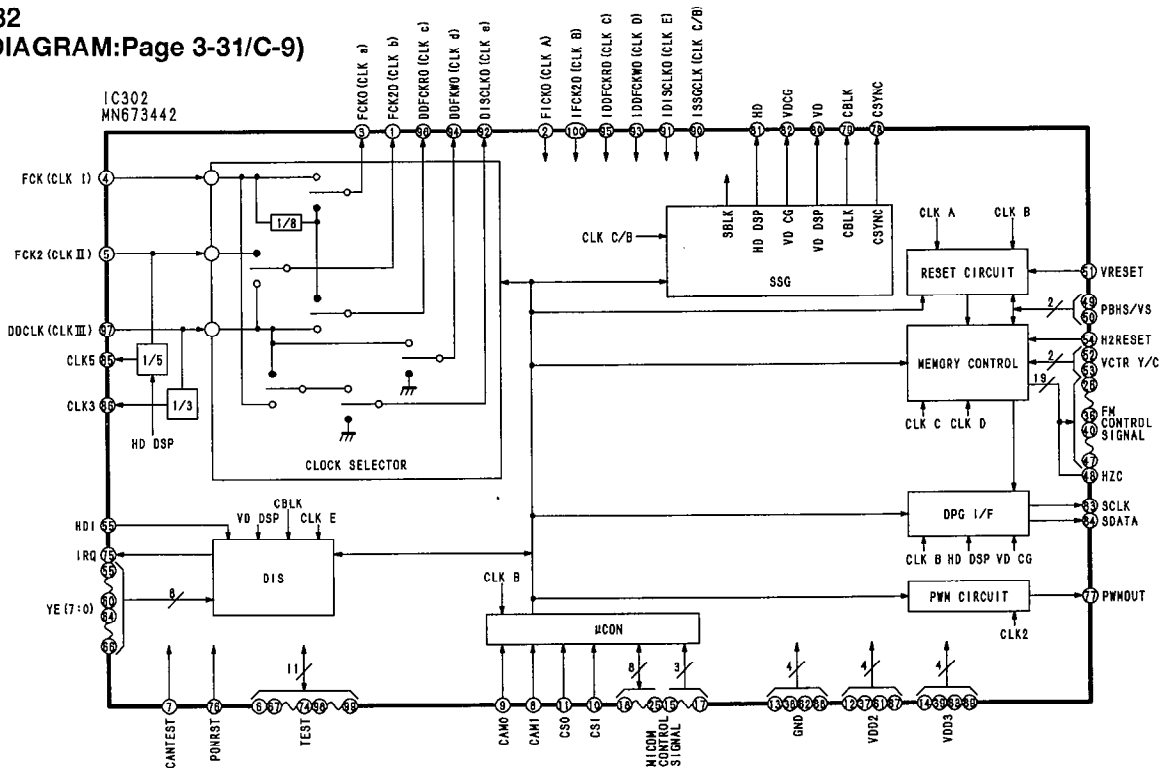
PROCESS I/O TABLE
IC301 (MN673432): DSP

PIN. NO.	SIGNAL NAME	I/O	EXPLANATION	PIN. NO.	SIGNAL NAME	I/O	EXPLANATION
1	ADCLK	I	Internal A/D Clock	44	YOUT7	O	Y Signal (bit7)
2	DVDD	—	Internal A/D Digital Voltage	45	YOUT6	O	Y Signal (bit6)
3	DVSS	—	Internal A/D Digital GND	46	YOUT5	O	Y Signal (bit5)
4	ADTEST	I	Internal A/D Test Signal	47	YOUT4	O	Y Signal (bit4)
5	VSS	—	GND	48	YOUT3	O	Y Signal (bit3)
6	VDD	—	Voltage	49	YOUT2	O	Y Signal (bit2)
7	TEST0	I	Test Mode Signal (bit0)	50	YOUT1	O	Y Signal (bit1)
8	TEST1	I	Test Mode Signal (bit1)	51	YOUT0	O	Y Signal (bit0)
9	PONRST	I	Reset: Power On	52	H2RST	O	H2 Reset Signal
10	VD	I	VD Signal	53	INH	O	INH Signal
11	CSYNC	I	CSYNC Signal	54	INVCSYNO	O	INV/CSYNC Signal
12	CBLK	I	CBLK Signal	55	INFUVSEL	O	INF/UVSEL Signal
13	HD	I	HD Signal	56	DDCLK	I	Clock (13.5MHz)
14	BIN0	I	Bch Digital Signal (bit0)	57	VSS	—	GND
15	BIN1/YEOUT0	I/O	Bch Digital Signal (bit1) Input and Ye Signal (bit0) Output	58	VDD	—	Voltage
16	BIN2/YEOUT1	I/O	Bch Digital Signal (bit2) Input and Ye Signal (bit1) Output	59	VCTRL	I	Field Memory Control Signal for Y Signal
17	BIN3/YEOUT2	I/O	Bch Digital Signal (bit3) Input and Ye Signal (bit2) Output	60	VCTRLC	I	Field Memory Control Signal for C Signal
18	BIN4/YEOUT3	I/O	Bch Digital Signal (bit4) Input and Ye Signal (bit3) Output	61	Y1OUT0	O	NR Section Y1 Signal (bit0)
19	BIN5/YEOUT4	I/O	Bch Digital Signal (bit5) Input and Ye Signal (bit4) Output	62	Y1OUT1	O	NR Section Y1 Signal (bit1)
20	BIN6/YEOUT5	I/O	Bch Digital Signal (bit6) Input and Ye Signal (bit5) Output	63	Y1OUT2	O	NR Section Y1 Signal (bit2)
21	BIN7/YEOUT6	I/O	Bch Digital Signal (bit7) Input and Ye Signal (bit6) Output	64	Y1OUT3	O	NR Section Y1 Signal (bit3)
22	BIN8/YEOUT7	I/O	Bch Digital Signal (bit8) Input and Ye Signal (bit7) Output	65	Y1OUT4	O	NR Section Y1 Signal (bit4)
23	GIN0	I	Gch Digital Signal (bit0)	66	Y1OUT5	O	NR Section Y1 Signal (bit5)
24	GIN1/ADOUT0	I/O	Gch Digital Signal (bit1) Input and Internal A/D Signal (bit0) Output	67	Y1OUT6	O	NR Section Y1 Signal (bit6)
25	GIN2/ADOUT1	I/O	Gch Digital Signal (bit2) Input and Internal A/D Signal (bit1) Output	68	Y1OUT7	O	NR Section Y1 Signal (bit7)
26	GIN3/ADOUT2	I/O	Gch Digital Signal (bit3) Input and Internal A/D Signal (bit2) Output	69	ZFY1IN7	I	Y1 Signal (bit7) for V Zoom
27	VSS	—	GND	70	ZFY1IN6	I	Y1 Signal (bit6) for V Zoom
28	VDD	—	Voltage	71	ZFY1IN5	I	Y1 Signal (bit5) for V Zoom
29	GIN4/ADOUT3	I/O	Gch Digital Signal (bit4) Input and Internal A/D Signal (bit3) Output	72	ZFY1IN4	I	Y1 Signal (bit4) for V Zoom
30	GIN5/ADOUT4	I/O	Gch Digital Signal (bit5) Input and Internal A/D Signal (bit4) Output	73	VSS	—	GND
31	GIN6/ADOUT5	I/O	Gch Digital Signal (bit6) Input and Internal A/D Signal (bit5) Output	74	VDD	—	Voltage
32	GIN7/ADOUT6	I/O	Gch Digital Signal (bit7) Input and Internal A/D Signal (bit6) Output	75	ZFY1IN3	I	Y1 Signal (bit3) for V Zoom
33	GIN8/ADOUT7	I/O	Gch Digital Signal (bit8) Input and Internal A/D Signal (bit7) Output	76	ZFY1IN2	I	Y1 Signal (bit2) for V Zoom
34	IRQ	O	BM Data Read Out Offering Signal	77	ZFY1IN1	I	Y1 Signal (bit1) for V Zoom
35	PHASE	O	PHASE Signal	78	ZFY1IN0	I	Y1 Signal (bit0) for V Zoom
36	COOUT7	O	C Signal (bit7)	79	FY1IN7	I	Y1 Signal (bit7) for NR
37	COOUT6	O	C Signal (bit6)	80	FY1IN6	I	Y1 Signal (bit6) for NR
38	COOUT5	O	C Signal (bit5)	81	FY1IN5	I	Y1 Signal (bit5) for NR
39	COOUT4	O	C Signal (bit4)	82	FY1IN4	I	Y1 Signal (bit4) for NR
40	COOUT3	O	C Signal (bit3)	83	FY1IN3	I	Y1 Signal (bit3) for NR
41	COOUT2	O	C Signal (bit2)	84	FY1IN2	I	Y1 Signal (bit2) for NR
42	COOUT1	O	C Signal (bit1)	85	FY1IN1	I	Y1 Signal (bit1) for NR
43	COOUT0	O	C Signal (bit0)	86	FY1IN0	I	Y1 Signal (bit0) for NR
				87	Y2OUT0	O	NR Section Y2 Signal (bit0)
				88	Y2OUT1	O	NR Section Y2 Signal (bit1)
				89	Y2OUT2	O	NR Section Y2 Signal (bit2)
				90	Y2OUT3	O	NR Section Y2 Signal (bit3)
				91	Y2OUT4	O	NR Section Y2 Signal (bit4)
				92	Y2OUT5	O	NR Section Y2 Signal (bit5)
				93	Y2OUT6	O	NR Section Y2 Signal (bit6)
				94	Y2OUT7	O	NR Section Y2 Signal (bit7)
				95	VSS	—	GND
				96	VDD	—	Voltage
				97	FCOUT0	O	NR Section C Signal (bit0)
				98	FCOUT1	O	NR Section C Signal (bit1)
				99	FCOUT2	O	NR Section C Signal (bit2)
				100	FCOUT3	O	NR Section C Signal (bit3)

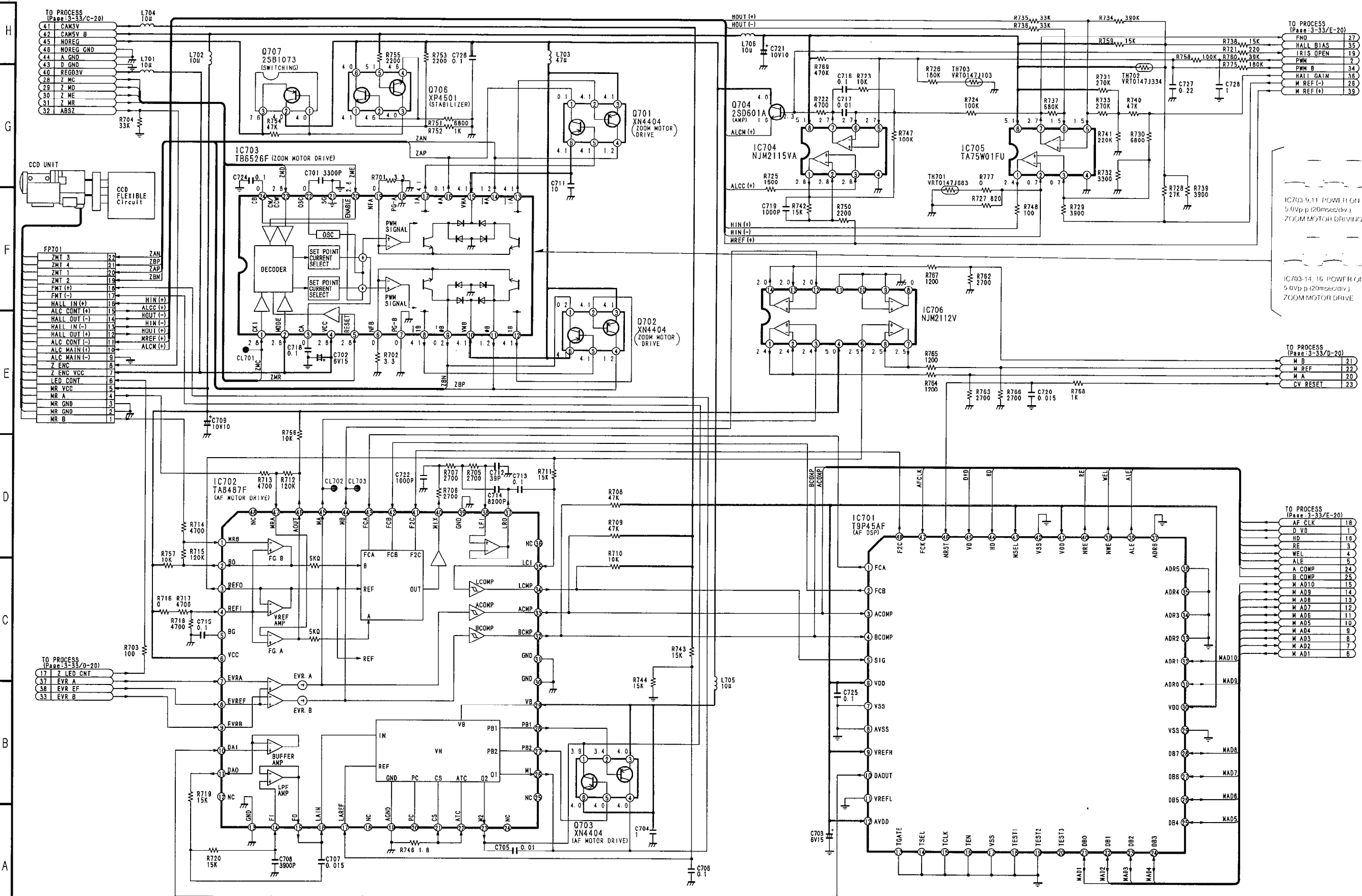
Back Page: PROCESS
& CAMERA OPERATION Section

PIN. NO.	SIGNAL NAME	I/O	EXPLANATION	PIN. NO.	SIGNAL NAME	I/O	EXPLANATION
101	ZFCIN0	I	C Signal (bit0) for Zoom	134	MIAD4	I/O	Microcomputer Data (bit4)
102	ZFCIN1	I	C Signal (bit1) for Zoom	135	MIAD3	I/O	Microcomputer Data (bit3)
103	ZFCIN2	I	C Signal (bit2) for Zoom	136	MIAD2	I/O	Microcomputer Data (bit2)
104	ZFCIN3	I	C Signal (bit3) for Zoom	137	MIAD1	I/O	Microcomputer Data (bit1)
105	FC2IN0	I	C Signal (bit0) for NR	138	MIAD0	I/O	Microcomputer Data (bit0)
106	FC2IN1	I	C Signal (bit1) for NR	139	ALE	I	ALE Signal
107	FC2IN2	I	C Signal (bit2) for NR	140	CS	I	CS Signal
108	FC2IN3	I	C Signal (bit3) for NR	141	RE	I	RE Signal
109	ZFY2IN7	I	Y2 Signal (bit7) for V Zoom	142	WE	I	WE Signal
110	ZFY2IN6	I	Y2 Signal (bit6) for V Zoom	143	RIN0	I	Rch Digital Signal (bit0)
111	ZFY2IN5	I	Y2 Signal (bit5) for V Zoom	144	RIN1	I	Rch Digital Signal (bit1)
112	ZFY2IN4	I	Y2 Signal (bit4) for V Zoom	145	RIN2	I	Rch Digital Signal (bit2)
113	VSS	—	GND	146	RIN3	I	Rch Digital Signal (bit3)
114	VDD	—	Voltage	147	RIN4	I	Rch Digital Signal (bit4)
115	ZFY2IN3	I	Y2 Signal (bit3) for V Zoom	148	RIN5	I	Rch Digital Signal (bit5)
116	ZFY2IN2	I	Y2 Signal (bit2) for V Zoom	149	RIN6	I	Rch Digital Signal (bit6)
117	ZFY2IN1	I	Y2 Signal (bit1) for V Zoom	150	RIN7	I	Rch Digital Signal (bit7)
118	ZFY2IN0	I	Y2 Signal (bit0) for V Zoom	151	RIN8	I	Rch Digital Signal (bit8)
119	FY2IN7	I	Y2 Signal (bit7) for NR	152	VDD	—	Voltage
120	FY2IN6	I	Y2 Signal (bit6) for NR	153	VSS	—	GND
121	FY2IN5	I	Y2 Signal (bit5) for NR	154	BVSS	—	A/D Analogue GND for Internal Bch
122	FY2IN4	I	Y2 Signal (bit4) for NR	155	ABIN	I	Bch Analogue Signal
123	FY2IN3	I	Y2 Signal (bit3) for NR	156	BVDD	—	A/D Analogue Voltage for Internal Bch
124	FY2IN2	I	Y2 Signal (bit2) for NR	157	RTOP	I	Internal A/D Reference Voltage (Top)
125	FY2IN1	I	Y2 Signal (bit1) for NR	158	RVSS	—	A/D Analogue GND for Internal Rch
126	FY2IN0	I	Y2 Signal (bit0) for NR	159	ARIN	I	Rch Analogue Signal
127	FCK	I	fck Rate Clock (22.5MHz)	160	RVDD	—	A/D Analogue Voltage for Internal Rch
128	FCK2	I	2fck Rate Clock (22.5MHz)	161	RBTM	I	Internal A/D Reference Voltage (Bottom)
129	MIAD7	I/O	Microcomputer Data (bit7)	162	GVSS	—	A/D Analogue GND for Internal Gch
130	VDD	—	Voltage	163	AGIN	I	Gch Analogue Signal
131	VSS	—	GND	164	GVDD	—	A/D Analogue Voltage for Internal Gch
132	MIAD6	I/O	Microcomputer Data (bit6)				
133	MIAD5	I/O	Microcomputer Data (bit5)				

PROCESS IC BLOCK
IC302:MN673432
(SCHEMATIC DIAGRAM:Page 3-31/C-9)



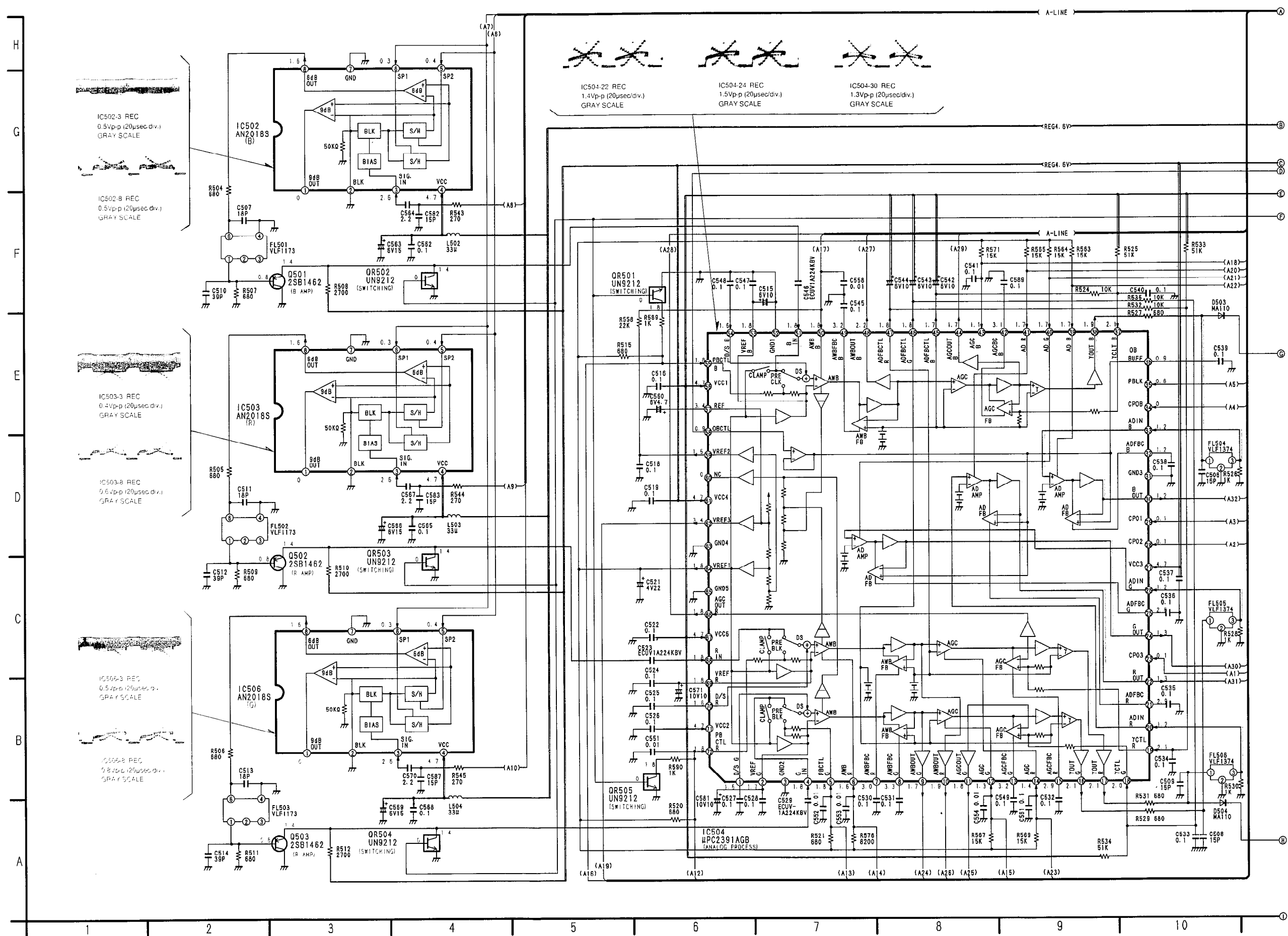
3-12. LENS DRIVE SCHEMATIC DIAGRAM



NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE WITH AIM THE CAMERA AT THE LOGARITHMIC GRAY SCALE CHART.

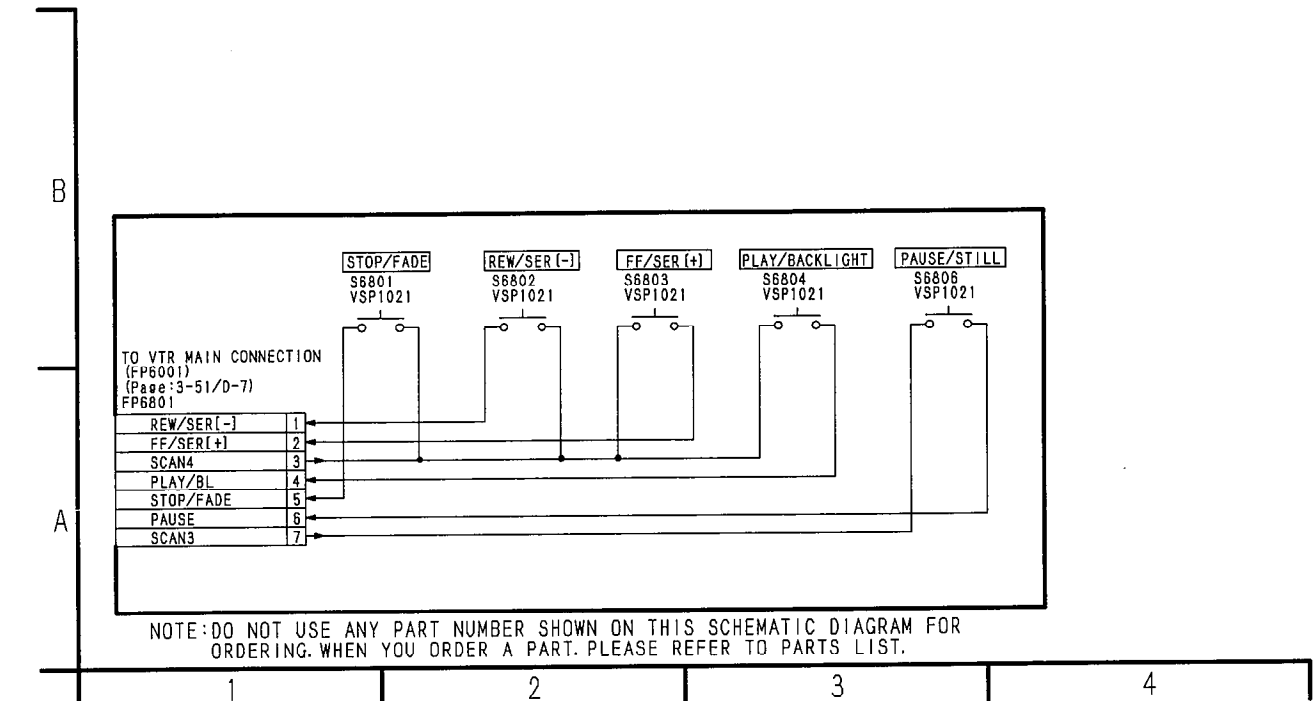
3-13. ANALOG PRE PROCESS & AWT SENSOR SCHEMATIC DIAGRAM



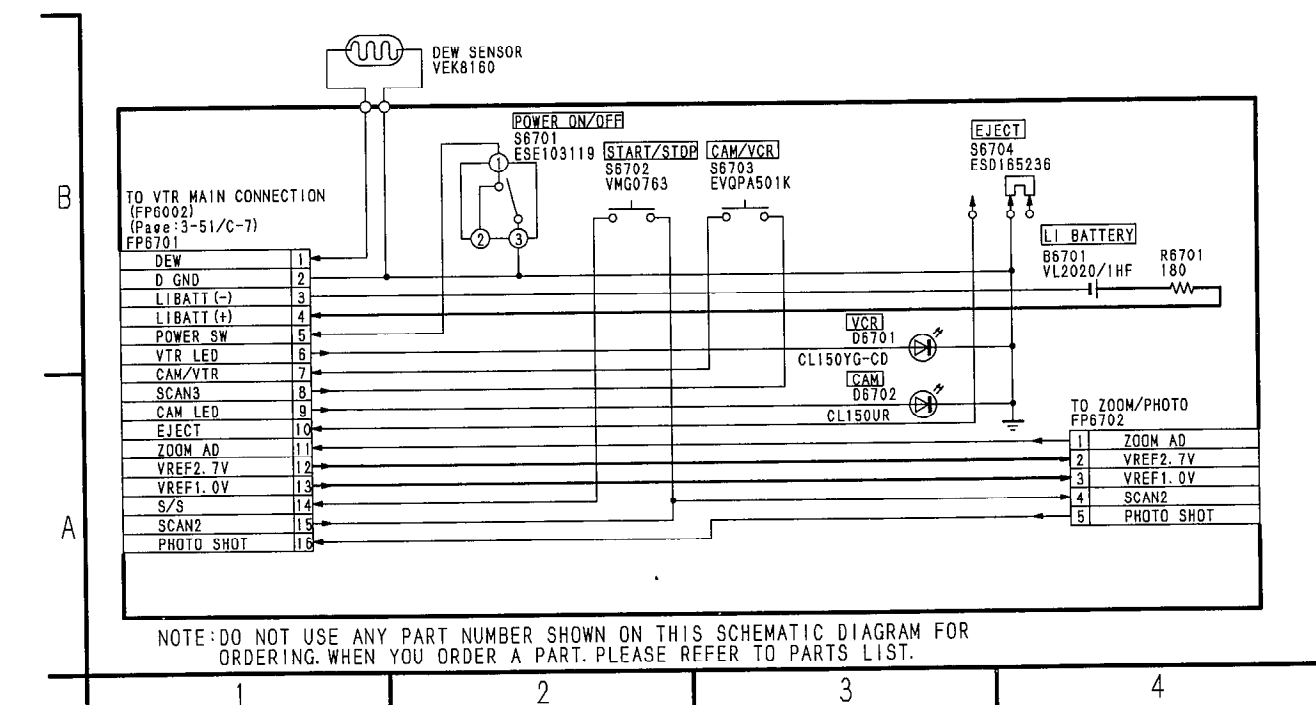
ANALOG PRE PROCESS I/O TABLE
IC507 (MB88344PFV): D/A CONVERTER

PIN. NO.	SIGNAL NAME	I/O	EXPLANATION	PIN. NO.	SIGNAL NAME	I/O	EXPLANATION
1	SBI1	I	Serial Data (Data Length Input Serial Data of 14 bits)	23	SUB G	—	(N.C.)
2	SBT1	I	Shift Clock (With Build Up of Shift Clock, Input Signal from DI Terminal is Input into 14 bits Shift Resistor)	24	SUB R	—	(N.C.)
3	EVRLD	I	When High Level is Input into LD Terminal, Value of Shift Resistor is Loaded by Decoder and Resistor for D/A Output.	25	PWMB	—	8 bits D/A Output Terminal with OP AMP (Reference Voltage: VDD2 · VSS2)
4	DO	—	(N.C.)	26	HALL GAIN	O	
5	GND	—	MCU Interface, GND Terminal of OP AMP	27	EVREF	—	
6	NC	—	(N.C.)	28	EVR	—	
7	VREF (L)	—	D/A Converter GND	29	VCC	—	MCU Interface, Voltage Terminal of OP AMP
8	VREF (H)	—	D/A Converter Voltage	30	NC	—	(N.C.)
9	AD R	—		31	VDD2	—	D/A Converter Voltage
10	AD G	—		32	VSS2	—	D/A Converter GND
11	AD B	—		33	B/G OFS	O	8 bits D/A Output Terminal with OP AMP (Reference Voltage: VDD2 · VSS2)
12	AGC R	—		34	R/G OFS	O	
13	AGC G	—		35	NC	—	(N.C.)
14	AWB R	—		36	PS	O	8 bits D/A Output Terminal with OP AMP (Reference Voltage: VDD2 · VSS2)
15	SAWB R	—		37	EV RB	—	
16	PED G	—		38	NC	—	(N.C.)
17	SPED G	—		39	A	—	
18	PED R	—		40	B	—	
19	SPED R	—		41	C	—	
20	NC	—	(N.C.)	42	TH1	—	
21	NC	—	(N.C.)	43	CLIP	—	
22	HALL BIAS	O	8 bits D/A Output Terminal with OP AMP (Reference Voltage: VDD2 · VSS2)	44	SPED B	—	
				45	PED B	—	
				46	SAWB B	—	
				47	AWB B	—	
				48	AGC B	—	

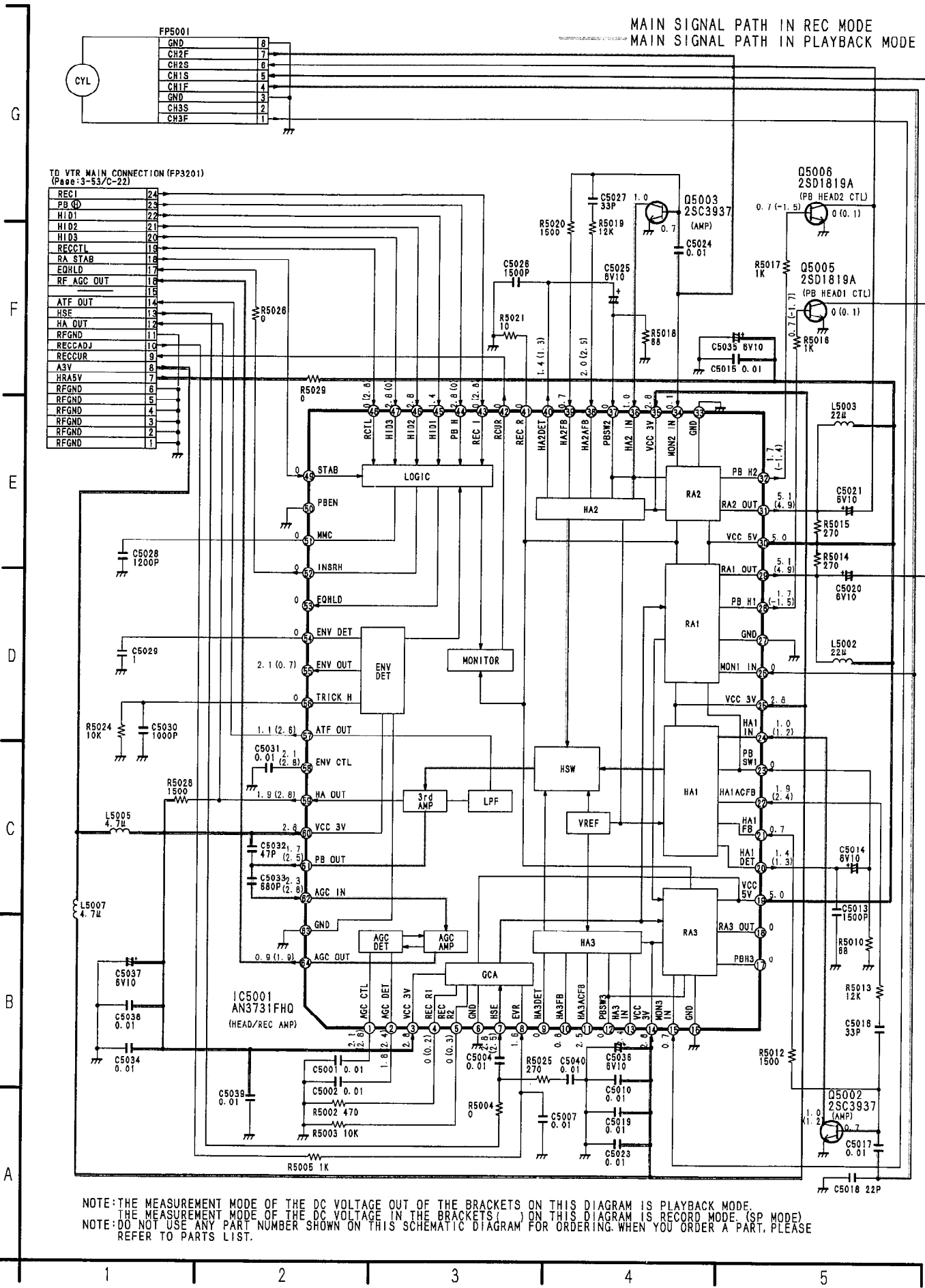
3-14. TOP OPERATION SCHEMATIC DIAGRAM



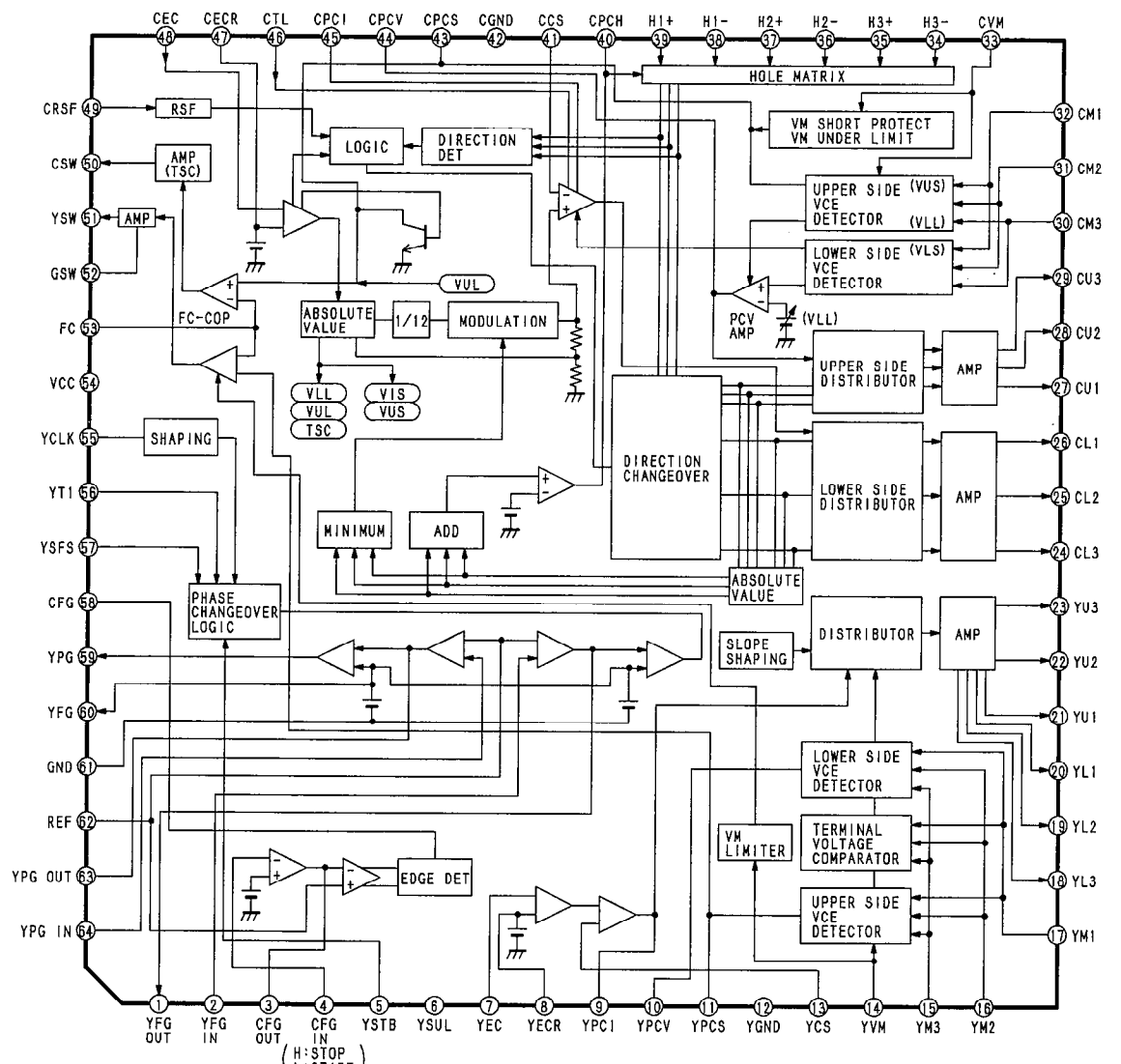
3-15. REAR OPERATION SCHEMATIC DIAGRAM



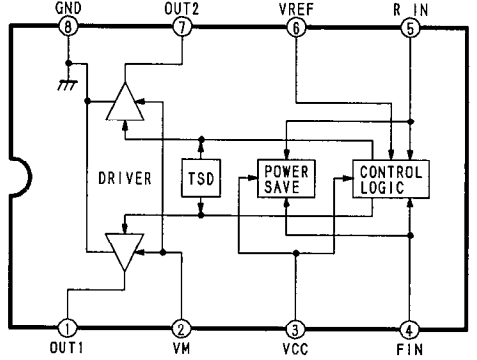
3-16. HEAD AMP SCHEMATIC DIAGRAM



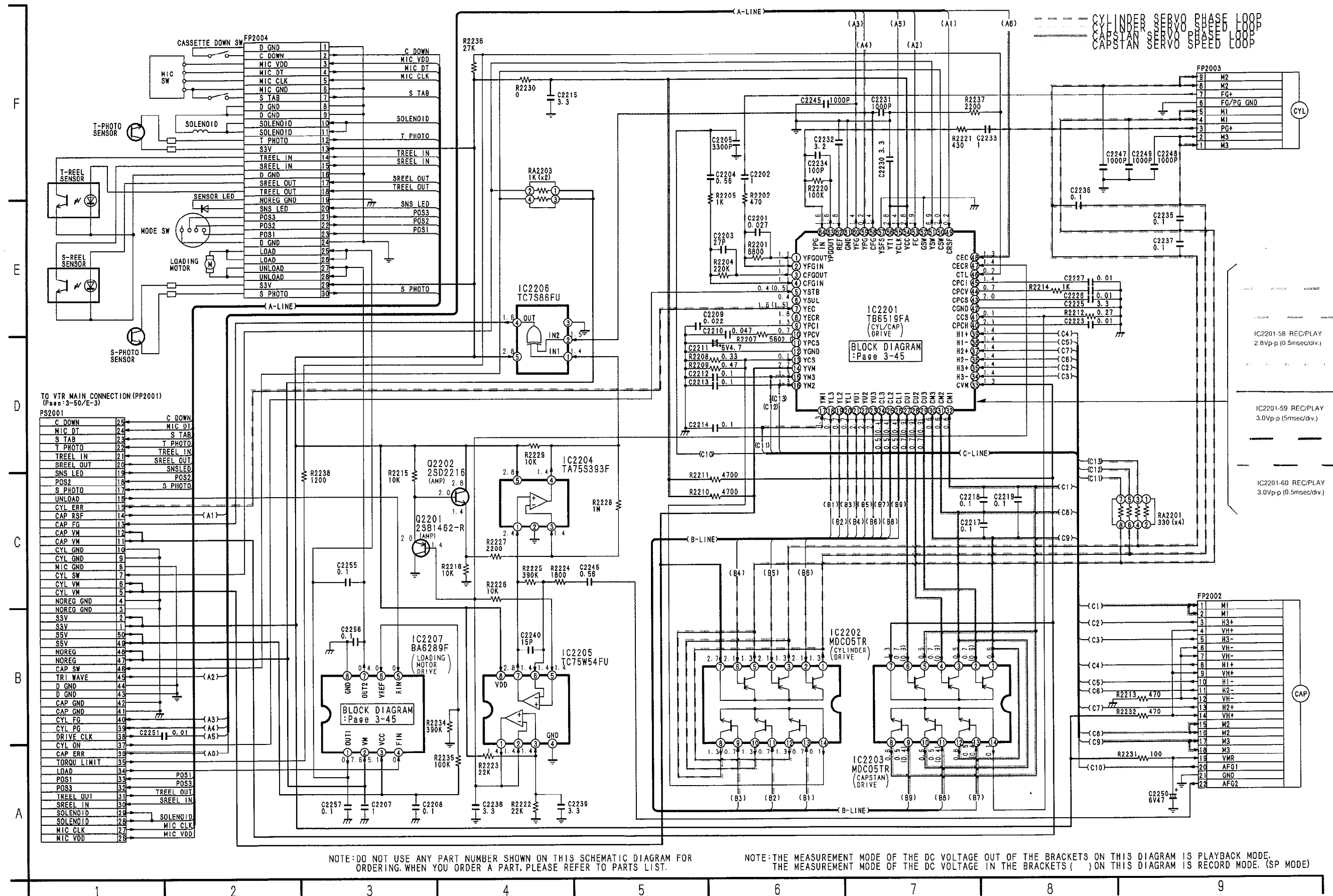
DRIVE IC BLOCK
IC2201:TB6519FA
(SCHEMATIC DIAGRAM:Page 3-47/E-7)



IC2207:BA6289F
(SCHEMATIC DIAGRAM:Page 3-46/B-3)



3-17. DRIVE SCHEMATIC DIAGRAM



IMPORTANT SAFETY NOTICE: COMPONENTS IDENTIFIED WITH THE MARK Δ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE TO PARTS LIST.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

TO BATTERY CATCHER

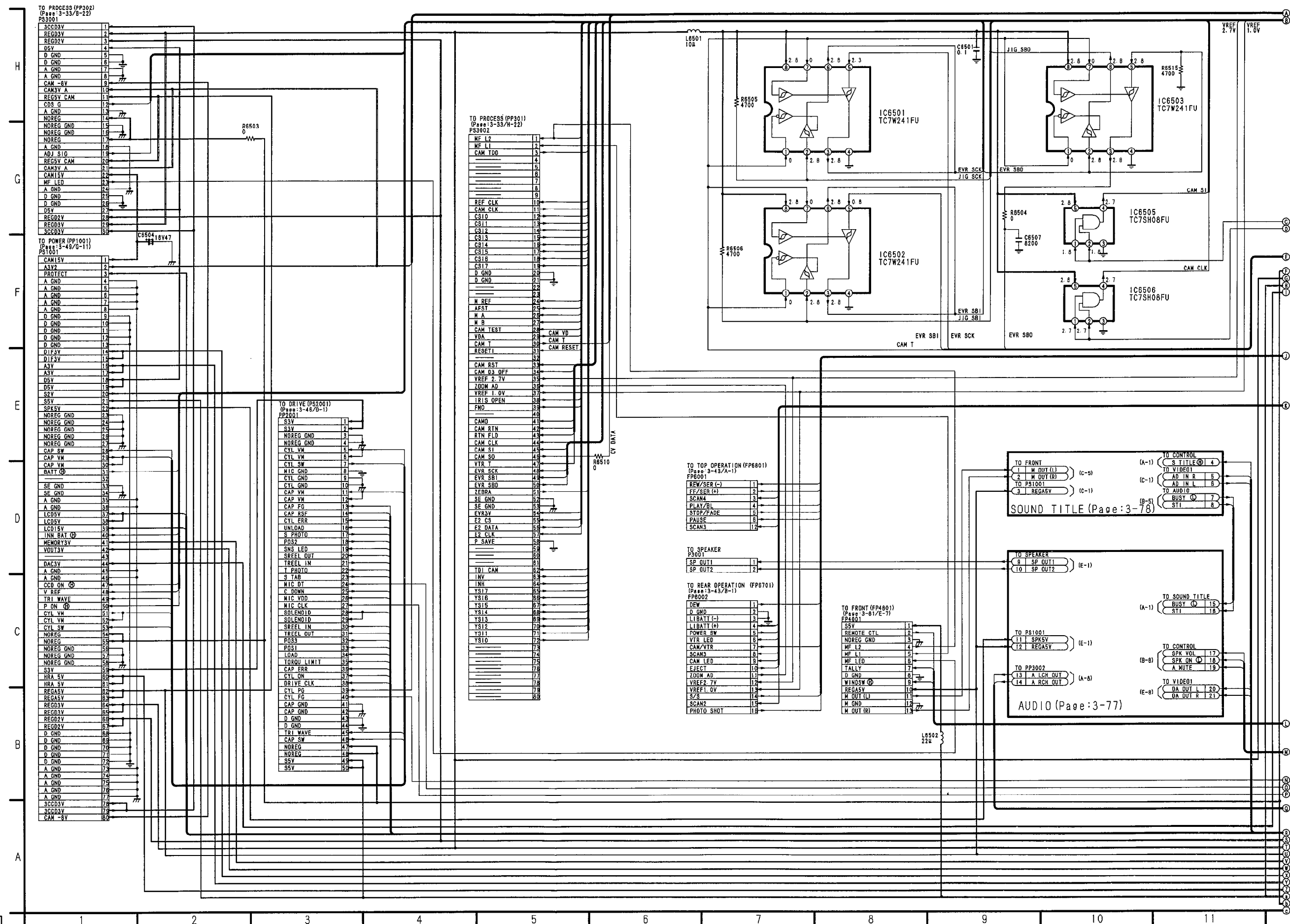
TO FRAME GND

TO VTR MAIN CN (PS1001)

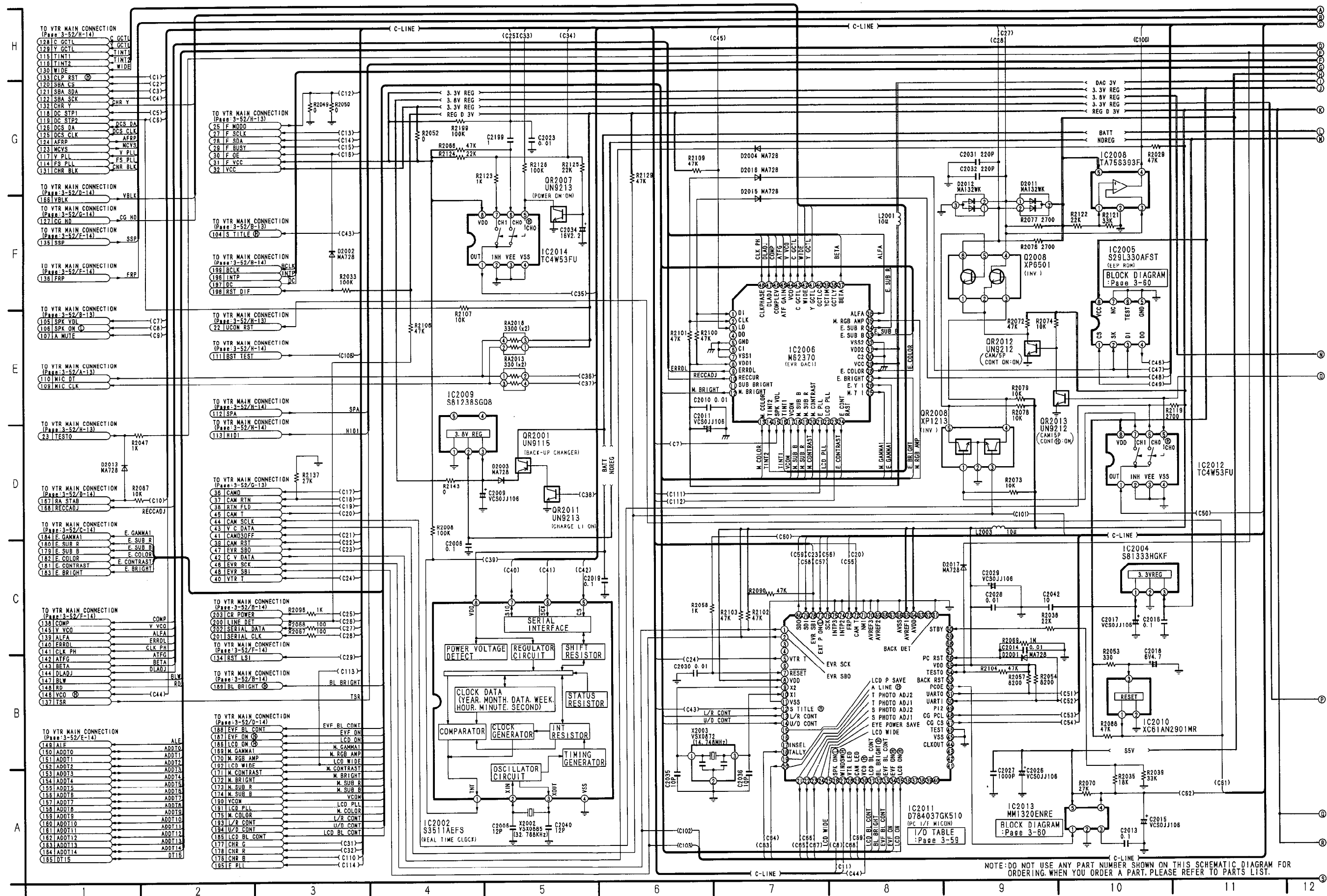
Page: 3-50(F-1)

1 CAM15V
2 A3V2
3 PROTECT
4 A GND
5 A GND
6 A GND
7 A GND
8 A GND
9 A GND
10 D GND
11 D GND
12 D GND
13 D GND
14 DIF3V
15 DIF3V
16 A3V
17 A3V
18 D5V
19 D5V
20 S2V
21 S5V
22 SPK5V
23 NOREG GND
24 NOREG GND
25 NOREG GND
26 NOREG GND
27 NOREG GND
28 CAP SW
29 CAP V+
30 CAP V-
31 BATT. Φ
32
33 SE GND
34 SE GND
35 A GND
36 A GND
37 LCD5V
38 LCD5V
39 LCD15V
40 INN BAT. Φ
41 MEMORY3V
42 VOUT3V
43
44 DAC3V
45 A GND
46 A GND
47 CCD ON Φ
48 V REF
49 TR1 WAVE
50 P ON Φ
51 CYL V+
52 CYL V-
53 CYL SW
54 NOREG
55 NOREG
56 NOREG GND
57 NOREG GND
58 NOREG GND
59 S5V
60 HRA 5V
61 HRA 5V
62 REGASV
63 REGASV
64 REGD3V
65 REGD3V
66 REGD2V
67 REGD2V
68 D GND
69 D GND
70 D GND
71 D GND
72 D GND
73 A GND
74 A GND
75 A GND
76 A GND
77 A GND
78 3CCD3V
79 3CCD3V
80 CAM -8V

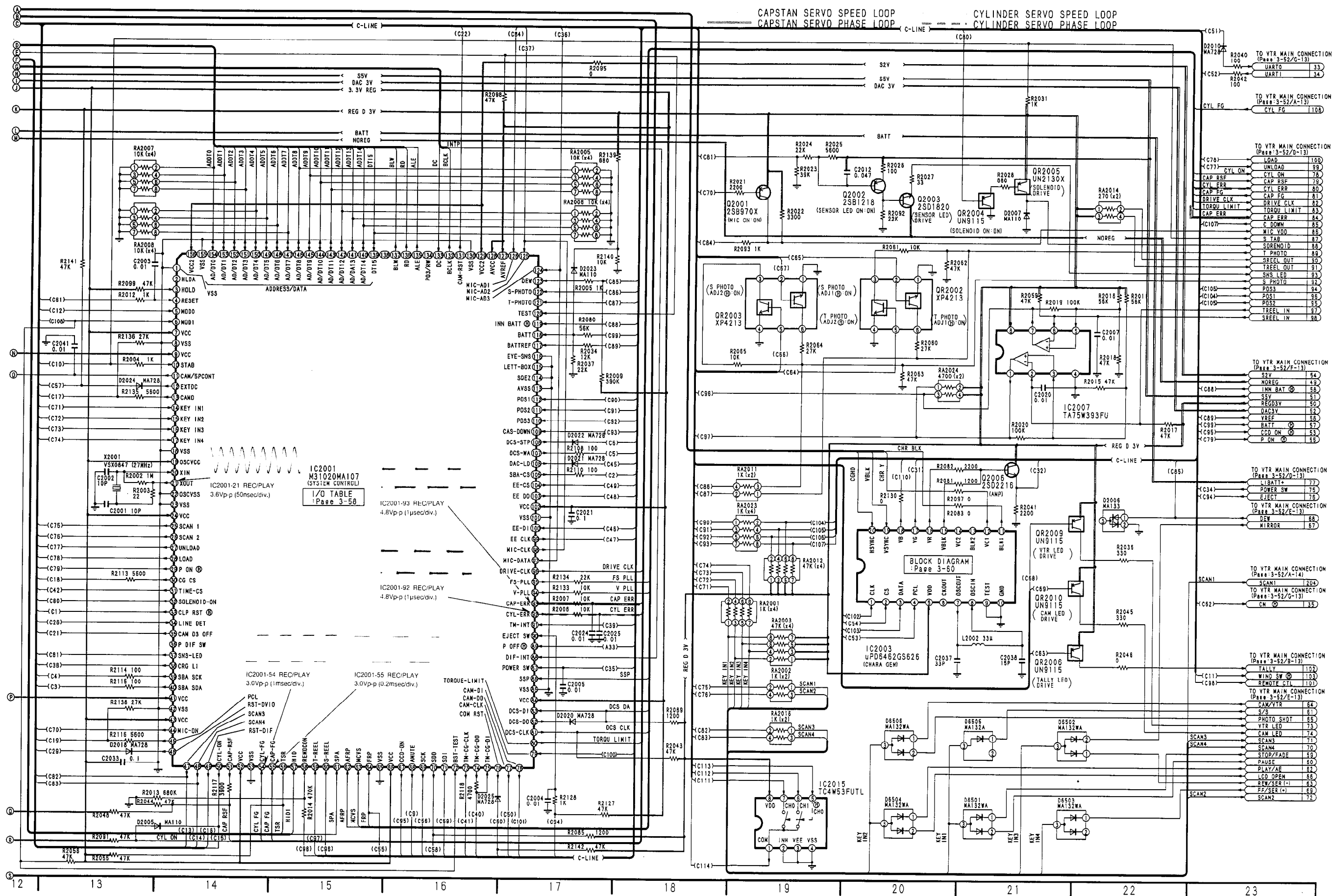
3-19. VTR MAIN CONNECTION SCHEMATIC DIAGRAM



3-20. SYSTEM CONTROL & SERVO SCHEMATIC DIAGRAM



NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.



SYSTEM CONTROL I/O TABLE

IC2001 (M31020MA107): SYSTEM CONTROL MICROCOMPUTER

PIN. NO.	SIGNAL NAME	I/O	EXPLANATION	PIN. NO.	SIGNAL NAME	I/O	EXPLANATION
1	VSS	—	GND	60	S REEL	I	Supply Reel Pulse
2	HLDA	O	EXT-Bus Hold Acknowledge/BST TCK (CLK)	61	SPA	I	ATF Sampling Pulse
3	HOLD	I	EXT-Bus Hold Request	62	AFRP	I	AFRP
4	RESET	I	Reset	63	MCVS	I	MCVS
5	MOD0	I	Single Chip Mode=VSS, VSS	64	FRP	I	Frame Reference Pulse
6	MOD1	I	Memory Extend Mode=VSS, VCC	65	VSS	—	GND
7	VCC	—	Voltage	66	VCC	—	Voltage
8	VSS	—	GND	67	CCD ON	O	Camera CCD On
9	VCC	—	Voltage	68	A MUTE	O	Audio Mute
10	STAB	I	Safety Tab SW	69	SCK	O	Serial Clock
11	CAM/5PCONT	O	CAM/5P Select Signal	70	SDO	O	232C/5P
12	EXT DC	O	RS-232C I/F Connect Timing	71	SDI	I	232C/5P
13	CAMO	O	Camera Out	72	BST TEST	I	Boundary Scan Test SW
14	KEY IN1	I	Key Scan IN 1 /BST TD0 (data out)	73	TM CG CLK	O	Timer & Character Generator Serial Clock
15	KEY IN2	I	Key Scan IN 2 /BST TD1 (data in)	74	TM CG D0	O	Timer & Character Generator Serial Data Out
16	KEY IN3	I	Key Scan IN 3 /BST TMS (Test Mode Select)	75	TM CG D1	I	Timer & Character Generator Serial Data In
17	KEY IN4	I	Key Scan IN 4	76	COM RST	O	RS-232C I/F Reset
18	VSS	—	GND	77	CAM CLK	O	Camera Serial Clock
19	OSC VCC	—	Voltage	78	CAM D0	O	Camera Serial Data Out
20	XIN	I	27MHz	79	CAM D1	I	Camera Serial Data In
21	XOUT	O	27MHz	80	TORQUE LIMIT	O	Capstan Torque Limit
22	OSC VSS	—	GND	81	DCS CLK	O	CAS & DVIO Serial Clock
23	VSS	—	GND	82	DCS D0	O	CAS & DVIO Serial Data Out
24	VCC	—	Voltage	83	DCS DI	I	CAS & DVIO Serial Data In
25	SCAN 1	O	Key Scan Out 1	84	VCC	—	Voltage
26	SCAN 2	O	Key Scan Out 2	85	VSS	—	GND
27	UNLOAD	O	Mecha Unload	86	SSP	I	Sector Start Pulse
28	LOAD	O	Mecha Load	87	POWER SW	I	Power SW
29	PON ⊕	O	Power On Control	88	DIF INT	I	DIF INT
30	CG CS	O	H: CAM 4.5MHz, L: DV 1027MHz	89	P OFF ⊕	I	Camera Remote Control Power
31	TIME CS	O	Timer Chip Select	90	EJECT SW	I	Eject SW
32	SQL ON	O	Solenoid On	91	TM INT	I	Timer Interrupt Request
33	CLP RST ⊕	O	Y CLP Discharge	92	CYL ERR	O	Cylinder Error
34	LIN DET	I	Line in Signal Detect	93	CAP ERR	O	Capstan Error
35	CAM D3 OFF	O	CAM Power Manage (18MHz Power Control) H: ON	94	V PLL	O	Video PLL
36	P DIF SW	—	(N.C.)	95	FS PLL	O	FS PLL (ATF ERR for Linear Arrangement)
37	SNS LED	O	Tape Sensor LED	96	DRIVE CLK	O	Cylinder Drive Clock
38	CRG L1	O	Charge Clock Data Out ON/OFF	97	MIC DATA	I/O	MIC Data In/Out (12C)
39	SBA SCK	O	Sub Audio Serial	98	MIC CLK	O	MIC ON (MIC/Contact ID)
40	SBA SDA	O	Sub Audio Serial	99	EE CLK	O	EEPROM & DAC Clock
41	VCC	—	Voltage	100	EE DI	I	EEPROM & DAC Data In
42	VSS	—	GND	101	VSS	—	GND
43	VCC	—	Voltage	102	VCC	—	Voltage
44	MID ON	O	MIC ON (MIC/Contact ID)	103	EE DO	O	EEPROM & DAC Data Out
45	PCL	O	Field Detect	104	EE DS	O	EEPROM Chip Select
46	RST DVIO	O	DV10, CAS, EDA Reset	105	SBA CS	O	Sub Audio Chip Select
47	SCAN 3	O	Key Scan Out 3	106	DAC LD	O	DAC Load
48	SCAN 4	O	Key Scan Out 4	107	DCS WA	O	DCS Serial Start
49	RST DIF	O	DIF LSI Reset	108	DCS STP	O	DCS Serial Stop
50	CYL ON	O	Cylinder On	109	CAP DWN	I	Cassette Down SW
51	CAP RSF	O	Capstan On	110	POS3	I	Mecha Position SW3
52	VCC	—	Voltage	111	POS2	I	Mecha Position SW2
53	VSS	—	GND	112	POS1	I	Mecha Position SW1
54	CYL FG	I	Cylinder FG	113	AVSS	—	GND
55	CAP FG	I	Capstan FG	114	SQEZ	I	SQEZ
56	TSR	I	Track Start Referene	115	LETT BOX	I	Letter Box Detect
57	HID	I	HSW	116	EVE SNS	I	Eye Sensor Detect
58	REMODO	I	Remote Control Pulse	117	BATT REF	I	Battery Reference
59	T REEL	I	Take Up Reel Pulse	118	BATT	I	Battery Voltage Detect

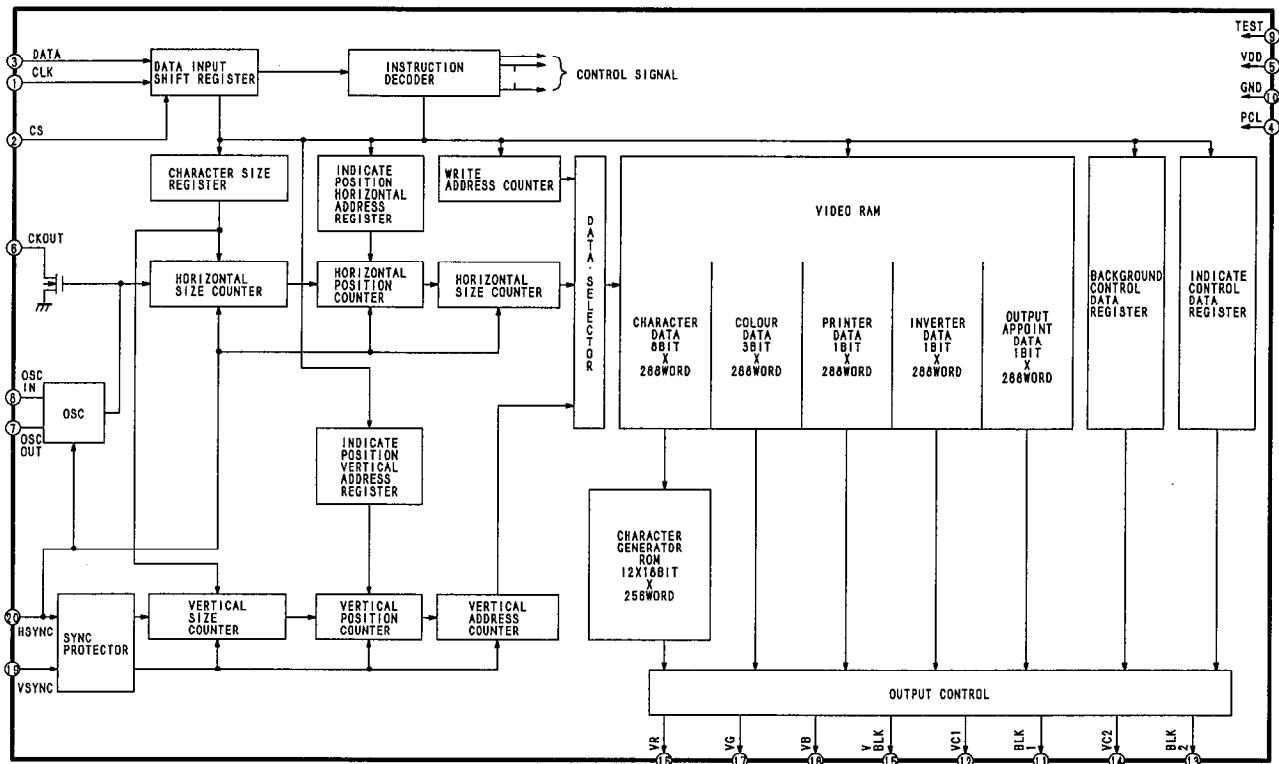
Back Page:
SYSTEM CTL & SERVO Section

PIN. NO.	SIGNAL NAME	I/O	EXPLANATION	PIN. NO.	SIGNAL NAME	I/O	EXPLANATION
119	INN BATT ⊕	I	INN. BATT/EXT. BATT Detect	138	NC	—	(N.C.)
120	TEST	I	Test SW	139	DT15	I/O	EXT-Memory Address/Data BUS
121	T PHOT	I	Dew Detect	140	ADDT14	I/O	EXT-Memory Address/Data BUS
122	S PHOT	I	Tape Take-up Photo Sensor Detect	141	ADDT13	I/O	EXT-Memory Address/Data BUS
123	DEW	I	Tape Supply Photo Sensor Detect	142	ADDT12	I/O	EXT-Memory Address/Data BUS
124	MIC AD3	I	Contact ID Detect 3	143	ADDT11	I/O	EXT-Memory Address/Data BUS
125	MIC AD2	I	Contact ID Detect 2	144	ADDT10	I/O	EXT-Memory Address/Data BUS
126	MIC AD1	I	Contact ID Detect 1	145	ADDT9	I/O	EXT-Memory Address/Data BUS
127	A VREF	—	Voltage Reference	146	ADDT8	I/O	EXT-Memory Address/Data BUS
128	A VCC	—	Voltage	147	ADDT7	I/O	EXT-Memory Address/Data BUS
129	VCC2	—	Voltage	148	ADDT6	I/O	EXT-Memory Address/Data BUS
130	VSS	—	GND	149	ADDT5	I/O	EXT-Memory Address/Data BUS
131	CAM RST	O	Camera Reset	150	ADDT4	I/O	EXT-Memory Address/Data BUS
132	BCLK	O	B CLK	151	ADDT3	I/O	EXT-Memory Address/Data BUS
133	DC	I	Data Complete for EXT-memory Mode	152	ADDT2	I/O	EXT-Memory Address/Data BUS
134	PO3/RW	O	(N.C.)	153	ADDT1	I/O	EXT-Memory Address/Data BUS
135	ALE	O	Address Latch Enable for EXT-Memory Mode	154	ADDT0	I/O	EXT-Memory Address/Data BUS
136	RD	O	Read Strobe for EXT-Memory Mode	155	VSS	—	GND
137	BLW	O	Byte Low Write for EXT-Memory Mode	156	VCC2	—	Voltage

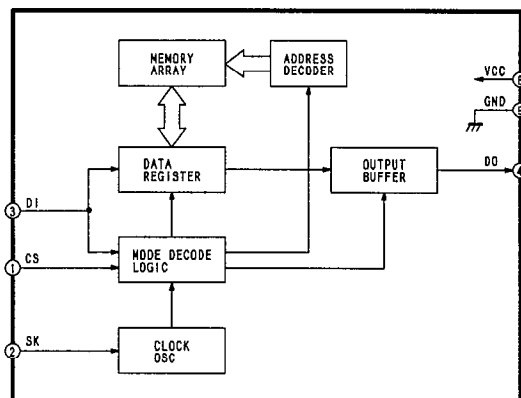
IC2011 (D784037GK510): RS-232C INTERFACE MICROCOMPUTER

PIN. NO.	SIGNAL NAME	I/O	EXPLANATION	PIN. NO.	SIGNAL NAME	I/O	EXPLANATION
1	EVR SCK	O	Serial Clock Signal for SYNC Serial Communication (To Camera Micom)	46	TEST	—	GND
2	EVR SBO	O	Serial Data Signal for SYNC Serial Communication (To Camera Micom)	47	CGCS	O	CG CS
5	VTR T	O	SYNC Serial Communication Enable Signal for Camera Micom	48	CGPCL	O	CG PCL
7	RESET	I	Reset Signal	49	P12	—	(N.C.)
8	VDD	—	VDD (+3V)	50	UARTI	I	RS-232C Data
9	X2	O	Oscillator (14.7456MHz)	51	UARTO	O	RS-232C Data
10	X1	I	Oscillator (14.7456MHz)	52	PCOE	O	RS-232C Driver Output Enable
11	VSS	—	GND	53	BACK RST	—	(N.C.)
12	S TITLE ⊕	O	Sound Effect Control Signal	54	TEST0	I	VTR Test Signal (H: Normal, L: Test Mode)
13	L/R CONT	O	LCD Driver Control (L/R Invert)	55	VDD	—	VDD (+3V)
14	U/D CONT	O	LCD Driver Control (U/D Invert)	56	PC RST	I	Reset Signal Detect (AD Input)
15	LCD P SAVE	—	(N.C.)	60	STBY	I	RS-232C Cable Connect Confirm
17	INSEL	—	(N.C.)	61	BACK DET	—	GND
18	TALLY	O	TALLY LED Control	64	AVDD	—	Voltage for AD Converter (+3V)
19	A LINE ⊕	—	(N.C.)	65	AVREF1	—	Reference Voltage for AD Converter (+3V)
20	T PH AD2	O	Take u	66	AVSS	—	GND for AD Converter
21	T PH AD1	O	Take u	67	ANO0	—	(N.C.)
22	S PH AD2	O	Supply Tape Sensor	68	ANO1	—	(N.C.)
23	S PH AD1	O	Supply Tape Sensor	69	AVREF2	—	GND
24	EYE P SAVE	—	(N.C.)	70	AVREF3	—	GND
25	LCD WIDE	O	LCD Driver Wide Select	71	NM1	—	GND
26	SPK ON ⊕	O	Speaker ON	72	CAM T	I	Camera Service/232C Micom Select Signal (H: 232C, L: Camera Service)
27	WIDNSW ⊕	O	Noise Silent	73	FRP	I	Frame SYNC Signal
28	VTR LED	O	VTR Mode LED	76	SCK	I	Serial Clock Signal for SYNC Serial Communication (To VTR Micom)
29	CAM LED	O	CAMERA Mode LED	77	EXT P ON ⊕	I	SYNC Serial Communication Enable Signal for VTR Micom
30	VCO ⊕	O	VCO Test Mode ⊕	78	EVR SBI	I	Serial Data Input for SYNC Serial Communication (To Camera Micom)
31	LCD BL CONT	O	LCD Back Light Control Signal	79	SDI	I	Serial Data for SYNC Serial Communication (To VTR Micom)
32	BL BRIGHT ⊕	O	Back Light Bright Control Signal	80	SDO	O	Serial Data for SYNC Serial Communication (To VTR Micom)
33	EVF BL CONT	O	EVF Back Light Control Signal				
34	EVF ON	O	EVF ON				
35	LCD ON	O	LCD ON				
44	CLKOUT	—	(N.C.)				
45	VSS	—	GND				

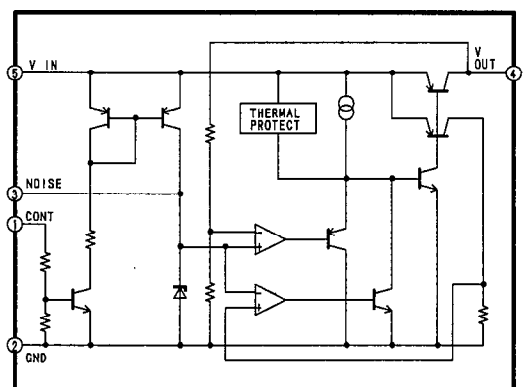
SYSTEM CONTROL IC BLOCK **IC2003:uPD6462GS626** **(SCHEMATIC DIAGRAM:Page 3-57/C-20)**



IC2005:S29L330AFST **(SCHEMATIC DIAGRAM:Page 3-55/F-10)**



IC2013:MM1320ENRE **(SCHEMATIC DIAGRAM:Page 3-55/A-9)**



SYSTEM CONTROL & SERVO ICs DC VOLTAGE CHART (SP MODE)

REF. NO.	IC2001																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STOP	0	3.3	3.3	3.3	0	3.3	3.3	0	3.8	0	1.7	3.3	0	2.8	2.8	2.8	2.8	0	3.3	1.6
PLAY	0	3.3	3.3	3.3	0	3.3	3.3	0	3.8	0	1.7	3.3	0	2.8	2.8	2.8	2.8	0	3.3	1.6
REC	0	3.3	3.3	3.3	0	3.3	3.3	0	3.8	0	1.7	3.3	0	2.8	2.8	2.8	2.8	0	3.3	1.6
F.F	0	3.3	3.3	3.3	0	3.3	3.3	0	3.8	0	1.7	3.3	0	2.8	2.8	2.8	2.8	0	3.3	1.6
REW	0	3.3	3.3	3.3	0	3.3	3.3	0	3.8	0	1.7	3.3	0	2.8	2.8	2.8	2.8	0	3.3	1.6
REF. NO.	IC2001																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
STOP	1.6	0	0	3.3	3.3	3.3	0	0	3.2	3.3	2.8	3.3	0	2.8	2.8	3.3	3.3	3.3	3.3	3.3
PLAY	1.6	0	0	3.3	3.3	3.3	0	0	3.2	0	2.8	3.3	0	2.8	0	0	3.3	3.3	3.3	0
REC	1.6	0	0	3.3	3.3	3.3	0	0	3.2	3.3	2.8	3.3	0	2.8	3.3	3.3	3.3	3.3	3.3	3.3
F.F	1.6	0	0	3.3	3.3	3.3	0	0	3.2	0	2.8	3.3	0	2.8	0	0	3.0	3.3	3.3	0
REW	1.6	0	0	3.3	3.3	3.3	0	0	3.2	0	2.8	3.3	0	2.8	0	0	3.0	3.3	3.3	0
REF. NO.	IC2001																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
STOP	3.3	0	3.3	3.3	1.7	3.3	3.3	3.3	3.3	0	1.4	3.3	0	1.4	2.8	1.4	1.4	2.7	2.8	0.1
PLAY	3.3	0	3.3	3.3	1.7	3.3	3.3	3.3	3.3	0	0	3.3	0	1.4	1.6	1.4	1.4	2.7	1.9	2.5
REC	3.3	0	3.3	3.3	1.6	3.3	3.3	3.3	3.3	0	0	3.3	0	1.4	1.3	2.8	1.4	2.7	2.1	2.0
F.F	3.3	0	3.3	3.3	1.6	3.3	3.3	3.3	3.3	0	3.3	3.3	0	1.4	1.6	1.4	1.4	2.7	1.6	1.6
REW	3.3	0	3.3	3.3	1.6	3.3	3.3	3.3	3.3	0	3.3	3.3	0	1.4	1.6	1.4	1.4	2.7	1.6	1.6
REF. NO.	IC2001																			
MODE	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
STOP	0	1.4	0	1.4	0	3.3	3.3	0	2.7	2.6	0.1	3.3	3.3	3.3	1.3	3.3	2.4	1.8	2.6	0.2
PLAY	0	1.4	0	1.4	0	3.3	0	3.3	2.7	2.6	2.5	3.3	3.3	3.3	1.3	3.3	2.4	1.8	2.6	0.2
REC	0	1.4	0	1.4	0	3.3	3.3	0	2.7	2.6	0.1	3.3	3.3	3.3	1.3	3.3	2.4	1.8	2.6	0.2
F.F	0	1.4	0	1.4	0	3.3	0	3.3	2.7	2.6	2.5	3.3	3.3	3.3	1.3	3.3	2.4	1.8	2.6	0.2
REW	0	1.4	0	1.4	0	3.3	0	3.3	2.7	2.6	2.5	3.3	3.3	3.3	1.3	3.3	2.4	1.8	2.6	0.2
REF. NO.	IC2001																			
MODE	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
STOP	3.2	2.5	2.2	3.3	0	0	0	3.0	0	3.3	3.3	1.6	0	0	0	1.6	2.8	2.8	0	0.7
PLAY	3.2	2.5	2.2	3.3	0	0	0	3.0	0	3.3	3.3	1.6	1.2	0	0	1.5	1.6	2.8	0	1.1
REC	3.2	2.5	2.2	3.3	0	0	0	2.9	0	3.3	—	1.6	1.2	0	0	1.6	2.8	2.8	0	1.0
F.F	3.2	2.5	2.2	3.3	0	0	0	2.9	0	3.3	—	1.6	1.2	0	0	1.5	1.6	2.8	2.8	1.4
REW	3.2	2.5	2.2	3.3	0	0	0	2.9	0	3.3	3.3	1.6	1.2	0	0	1.5	1.6	2.8	2.8	1.0
REF. NO.	IC2001																			
MODE	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120
STOP	0	3.3	0	0	3.2	0	2.6	2.9	0	0	0	0	0	0	0	0	1.5	2.1	0	3.3
PLAY	0	3.3	0	0	3.2	0	2.6	2.9	0	0	0	0	0	0	0	0	1.5	2.1	0	1.3
REC	0	3.3	0	0	3.2	0	2.6	2.9	0	0	0	0	0	0	0	0	1.5	2.1	0	3.3
F.F	0	3.3	0	0	3.2	0	2.6	2.9	0	2.8	2.8	0	0	0	0	0	1.5	2.1	0	3.3
REW	0	3.3	0	0	3.2	0	2.6	2.9	0	2.8	2.8	0	0	0	0	0	1.5	2.1	0	3.3
REF. NO.	IC2001																			
MODE	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140
STOP	0	0	0	2.8	2.8	2.8	3.3	3.3	2.3	0	2.3	1.0	0	0	0	2.3	2.2	2.2	0.1	0.1
PLAY	0	0	0	2.8	2.8	2.8	3.3	3.3	2.3	0	2.3	1.0	0	0	0	2.2	2.2	2.2	0.1	0.1
REC	0	0	0	2.8	2.8	2.8	3.3	3.3	2.3	0	2.3	1.0	0	0	0	2.3	2.2	2.2	0.1	0.1
F.F	0	0	0	2.8	2.8	2.8	3.3	3.3	2.3	0	2.3	1.0	0	0	0	2.2	2.2	2.2	0.1	0.1
REW	0	0	0	2.8	2.8	2.8	3.3	3.3	2.3	0	2.3	1.0	0	0	0	2.3	2.2	2.2	0.1	0.1
REF. NO.	IC2001																			
MODE	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156				
STOP	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	2.3				
PLAY	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	2.3				
REC	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	2.3				
F.F	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	2.3				
REW	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	2.3				
REF. NO.	IC2002																			
MODE	1	2	3	4	5	6	7	8												
STOP	3.3	0.5	0.6	0	2.8	3.3	1.3	3.6												
PLAY	3.3	0.5	0.6	0	2.8	3.3	1.3	3.6												
REC	3.3	0.5	0.6	0	2.8	3.3	1.3	3.6												
F.F	3.3	0.5	0.7	0	2.8	3.3	1.3	3.6												
REW	3.3	0.5	0.7	0	2.8	3.3	1.3	3.6												
REF. NO.	IC2003																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STOP	2.3	0	0.7	2.8	2.8	0	1.1	1.2	0	0	0	0	0	0	0.1	0.1	0.1	0	2.4	2.2
PLAY	2.3	0	0.9	2.8	2.8	0	1.1	1.2	0	0	0	0	0	0	0.1	0	0	0	2.3	2.2
REC	2.3	0	0.7	2.8	2.8	0	1.1	1.2	0	0	0	0	0	0	0.1	0.1	0.1	0	2.4	2.2
F.F	2.3	0	0.9	2.8	2.8	0	1.1	1.2	0	0	0	0	0	0	0.1	0	0	0	2.3	2.2
REW	2.3	0	0.7	2.8	2.8	0	1.1	1.2	0	0	0	0	0	0	0.1	0	0	0	2.3	2.2

SYSTEM CONTROL & SERVO ICs DC VOLTAGE CHART (SP MODE)

REF. NO.	IC2004										IC2005									
MODE	1	2	3								1	2	3	4	5	6	7	8		
STOP	3.3	0	7.6								0	0	0	0.9	0	0	0	3.3		
PLAY	3.3	0	7.6								0	0	0	0.6	0	0	0	3.3		
REC	3.3	0	7.6								0	0	0	0.9	0	0	0	3.3		
F.F	3.3	0	7.6								0	3.3	0	0.5	0	0	0	3.3		
REW	3.3	0	7.6								0	3.3	0	0.5	0	0	0	3.3		
REF. NO.	IC2006																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STOP	0.2	0.2	0.2	0	0	0	0	2.8	0.9	1.7	2.5	1.8	1.1	1.8	2.2	1.8	1.7	1.6	1.6	1.5
PLAY	0.2	0.2	0.2	0	0	0	0	2.8	0.9	1.7	2.5	1.8	1.1	1.8	2.2	1.8	1.7	1.6	1.6	1.5
REC	0.2	0.2	0.2	0	0	0	0	2.8	0.9	1.7	2.5	1.8	1.1	1.8	2.2	1.8	1.7	1.6	1.6	1.5
F.F	0.2	2.8	0.2	0	0	0	0	2.8	0.9	1.7	2.5	1.8	1.1	1.8	2.2	1.8	1.7	1.6	1.6	1.5
REW	0.2	2.8	0.2	0	0	0	0	2.8	0.9	1.7	2.5	1.8	1.1	1.8	2.2	1.8	1.7	1.6	1.6	1.5
REF. NO.	IC2006																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
STOP	2.0	1.8	2.0	1.4	1.1	0.4	0.9	0.8	2.8	0	2.8	0	1.5	1.6	1.3	1.6	1.4	2.8	2.8	2.8
PLAY	2.0	1.8	2.0	1.4	1.2	0.4	0.9	0.8	2.8	0	2.8	0	1.5	1.6	1.3	1.6	1.4	2.8	2.8	2.8
REC	2.0	1.8	2.0	1.4	1.2	0.4	0.9	0.8	2.8	0	2.8	0	1.5	1.6	1.3	1.6	1.4	2.8	2.8	2.8
F.F	2.0	1.8	2.0	1.4	1.2	0.4	0.9	0.8	2.8	0	2.8	0	1.5	1.6	1.3	1.6	1.4	2.8	2.8	2.8
REW	2.0	1.8	2.0	1.4	1.2	0.4	0.9	0.8	2.8	0	2.8	0	1.5	1.6	1.3	1.6	1.4	2.8	2.8	2.8
REF. NO.	IC2006																			
MODE	41	42	43	44	45	46	47	48												
STOP	0	0	0	1.6	1.8	1.3	1.0	1.3												
PLAY	0	0	0	1.6	1.8	1.3	1.0	1.3												
REC	0	0	0	1.6	1.8	1.3	1.0	1.3												
F.F	0	0	0	1.6	1.8	1.3	1.0	1.3												
REW	0	0	0	1.6	1.8	1.3	1.0	1.3												
REF. NO.	IC2007										IC2008									
MODE	1	2	3	4	5	6	7	8			1	2	3	4	5					
STOP	2.8	1.1	1.6	0	1.6	0.2	2.8	2.8			3.0	0	4.9	2.6	5.1					
PLAY	2.8	2.3	1.6	0	1.6	2.4	2.8	2.8			3.0	0	4.8	2.6	5.1					
REC	2.8	2.3	1.6	0	1.6	2.4	2.8	2.8			3.0	0	4.9	2.6	5.1					
F.F	1.5	1.1	1.3	0	1.3	1.2	1.5	2.8			3.0	0	4.8	2.6	5.1					
REW	1.5	1.1	1.3	0	1.3	1.2	1.5	2.8			3.0	0	4.8	2.6	5.1					
REF. NO.	IC2009										IC2010									
MODE	1	2	3	4	5						1	2	3							
STOP	0	7.6	3.8	0	0						3.3	0	3.3							
PLAY	0	7.6	3.8	0	0						3.3	0	3.3							
REC	0	7.6	3.8	0	0						3.3	0	3.3							
F.F	0	7.6	3.8	0	0						3.3	0	3.3							
REW	0	7.6	3.8	0	0						3.3	0	3.3							
REF. NO.	IC2011																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STOP	2.3	0.6	0	0	2.8	0	2.8	2.8	1.4	1.1	0	0	0	2.8	2.8	0	0	2.8	0	0
PLAY	2.2	0.8	0	0	2.8	0	2.8	2.8	1.4	0.9	0	0	0	2.8	2.8	0	0	2.8	0	0
REC	2.3	0.6	0	0	2.8	0	2.8	2.8	1.4	1.0	0	0	0	2.8	2.8	0	0	0	0	0
F.F	2.2	0.8	0	0	2.8	0	2.8	2.8	1.4	0.9	0	0	0	2.8	2.8	0	0	2.8	0	0
REW	2.1	0.8	0	0	2.8	0	2.8	2.8	1.4	0.9	0	0	0	2.8	2.8	0	0	2.8	0	0
REF. NO.	IC2011																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
STOP	2.8	0	2.8	0	0	2.8	0	2.8	0	0	2.8	0	0	0	2.8	0	0	0	0	0
PLAY	2.8	0	2.8	0	0	0	0	0	2.8	0	2.8	0	0	0	2.8	0	0	0	0	0
REC	2.8	0	2.8	0	0	2.8	0	2.8	0	0	2.8	0	0	0	2.8	0	0	0	0	0
F.F	2.8	0	2.8	0	0	2.8	0	0	2.8	0	2.8	0	0	0	2.8	0	0	0	0	0
REW	2.8	0	2.8	0	0	2.8	0	0	2.8	0	2.8	0	0	0	2.8	0	0	0	0	0
REF. NO.	IC2011																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
STOP	0	0	0	0	0	0	0	2.8	0	2.8	2.8	0	0	2.8	2.8	2.7	0	0	0	2.1
PLAY	0	0	0	0	0	0	0	2.8	0	2.8	2.8	0	0	2.8	2.8	2.7	0	0	0	2.1
REC	0	0	0	0	0	0	0	2.8	0	2.8	2.8	0	0	2.8	2.8	2.7	0	0	0	2.1
F.F	0	0	0	0	0	0	0	2.8	0	2.8	2.8	0	0	2.8	2.8	2.7	0	0	0	2.1
REW	0	0	0	0	0	0	0	2.8	0	2.8	2.8	0	0	2.8	2.8	2.7	0	0	0	2.1
REF. NO.	IC2011																			
MODE	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
STOP	0	0	0	2.8	2.8	0	0	0	0	0	0	0	1.4	0	0	2.7	2.8	2.8	2.7	0.1
PLAY	0	0	0	2.8	2.8	0	0	0	0	0	0	0	1.4	0	0	2.7	2.8	2.8	2.6	2.5
REC	0	0	0	2.8	2.8	0	0	0	0	0	0	0	1.4	0	0	2.7	2.8	2.8	2.6	0.1
F.F	0	0	0	2.8	2.8	0	0	0	0	0	0	0	1.4	0	0	2.7	2.8	2.8	2.6	2.5
REW	0	0	0	2.8	2.8	0	0	0	0	0	0	0	1.4	0	0	2.7	2.8	2.8	2.6	2.5

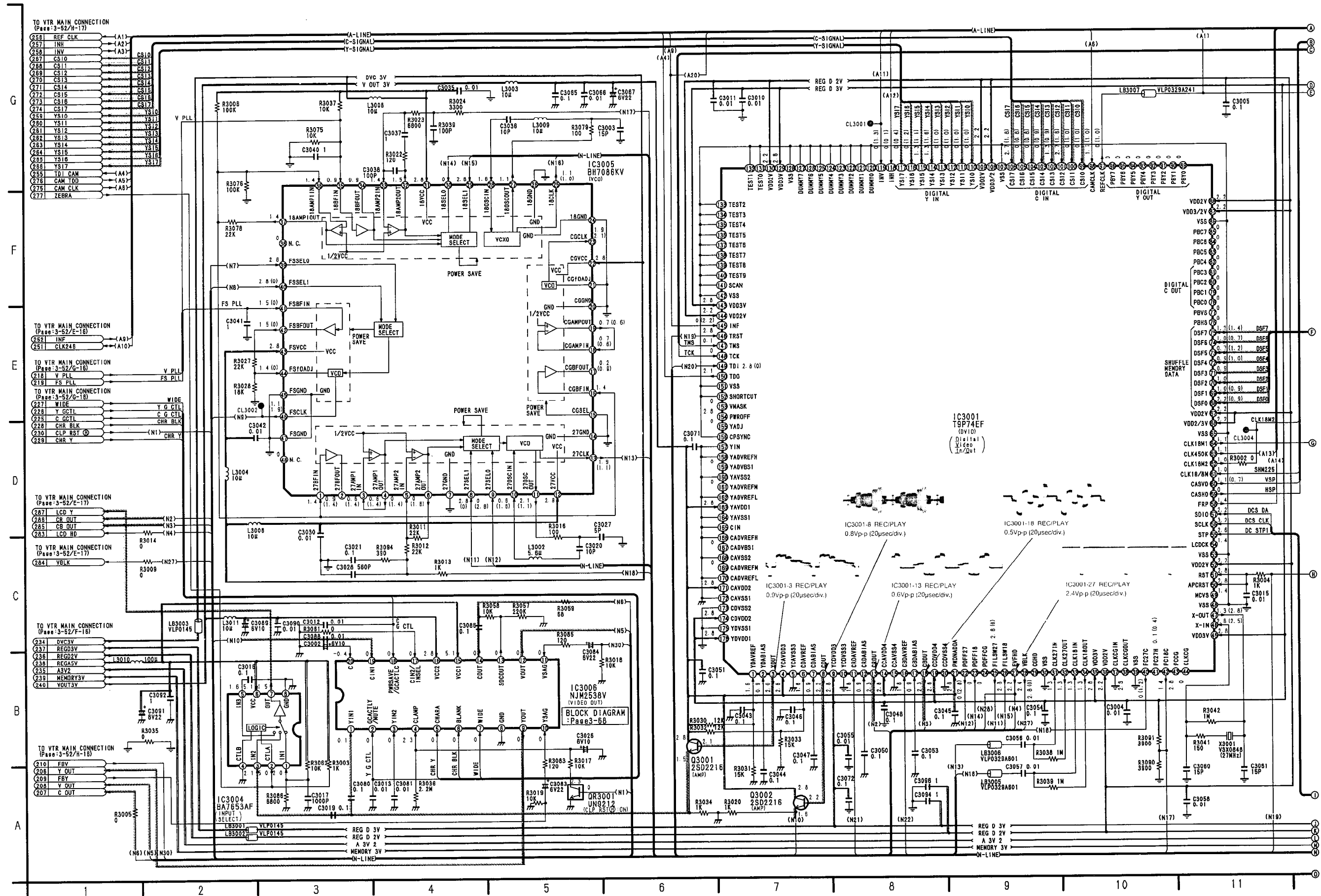
SYSTEM CONTROL & SERVO ICs DC VOLTAGE CHART (SP MODE)

REF. NO.	IC2012										IC2013									
MODE	1	2	3	4	5	6	7	8			1	2	3	4	5					
STOP	2.4	0	0	0	1.7	2.7	2.3	3.3			0	0	0	3.2	5.1					
PLAY	2.4	0	0	0	1.7	2.7	2.3	3.3			0	0	0	3.2	5.1					
REC	2.4	0	0	0	1.7	2.7	2.3	3.3			0	0	0	3.2	5.1					
F.F	2.4	0	0	0	1.7	2.7	2.3	3.3			0	0	0	3.2	5.1					
REW	2.4	0	0	0	1.7	2.7	2.3	3.3			0	0	0	3.2	5.1					
REF. NO.	IC2014										IC2015									
MODE	1	2	3	4	5	6	7	8			1	2	3	4	5	6	7	8		
STOP	0	0	0	0	0	3.3	0	3.3			2.0	0	0	0	0	2.0	2.0	2.8		
PLAY	0	0	0	0	0	3.3	0	3.3			2.0	0	0	0	0	2.0	2.0	2.8		
REC	0	0	0	0	0	3.3	0	3.3			2.0	0	0	0	0	2.0	2.0	2.8		
F.F	0	0	0	0	0	3.3	0	3.3			2.0	0	0	0	0	2.0	2.0	2.8		
REW	0	0	0	0	0	3.3	0	3.3			2.0	0	0	0	0	2.0	2.0	2.8		

SYSTEM CONTROL & SERVO TRs DC VOLTAGE CHART (SP MODE)

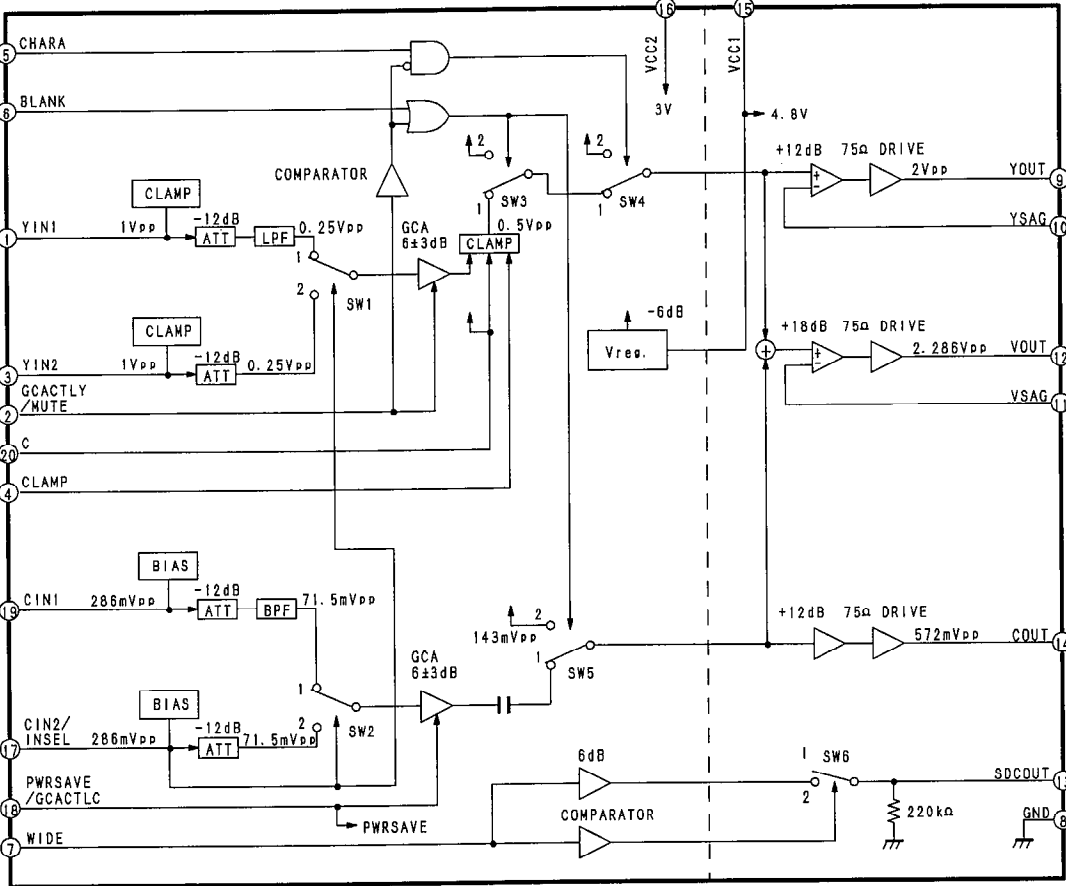
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||

3-21. VIDEO1 SCHEMATIC DIAGRAM

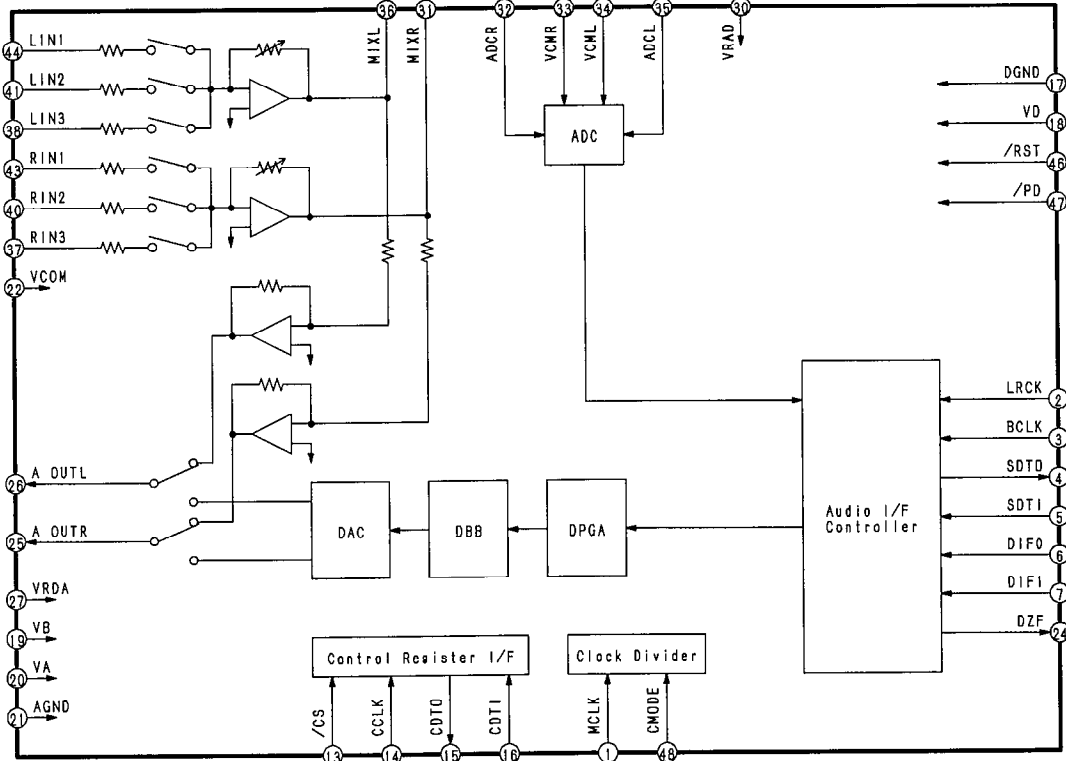


Back Page:
SYSTEM CTL & SERVO Section

VIDEO1 IC BLOCK
IC3006:NMJ2538V
(SCHEMATIC DIAGRAM:Page 3-64/B-5)

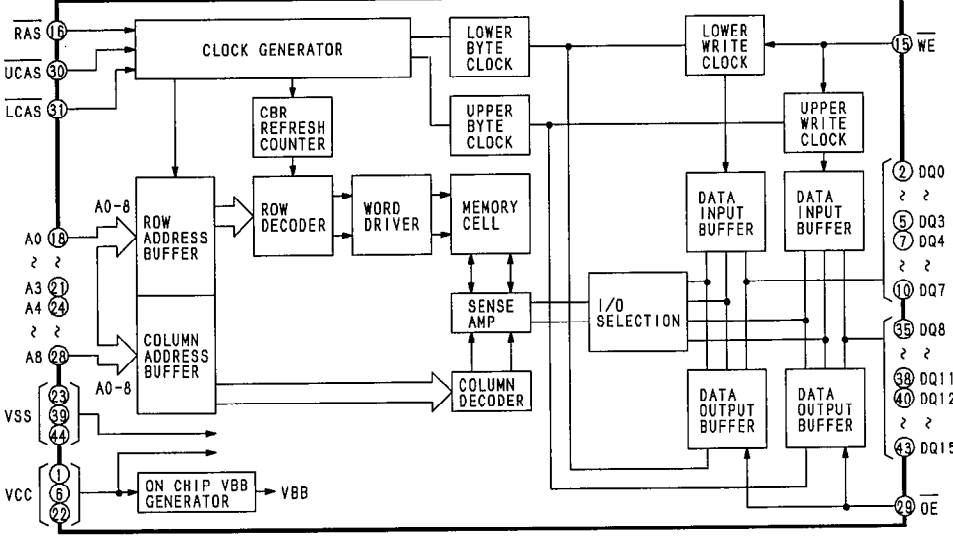


IC4501:AK4513
(SCHEMATIC DIAGRAM:Page 3-67/B-19)

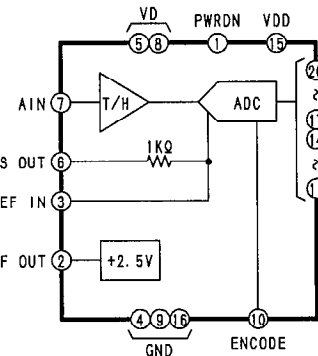


Back Page:
VIDEO1 Section

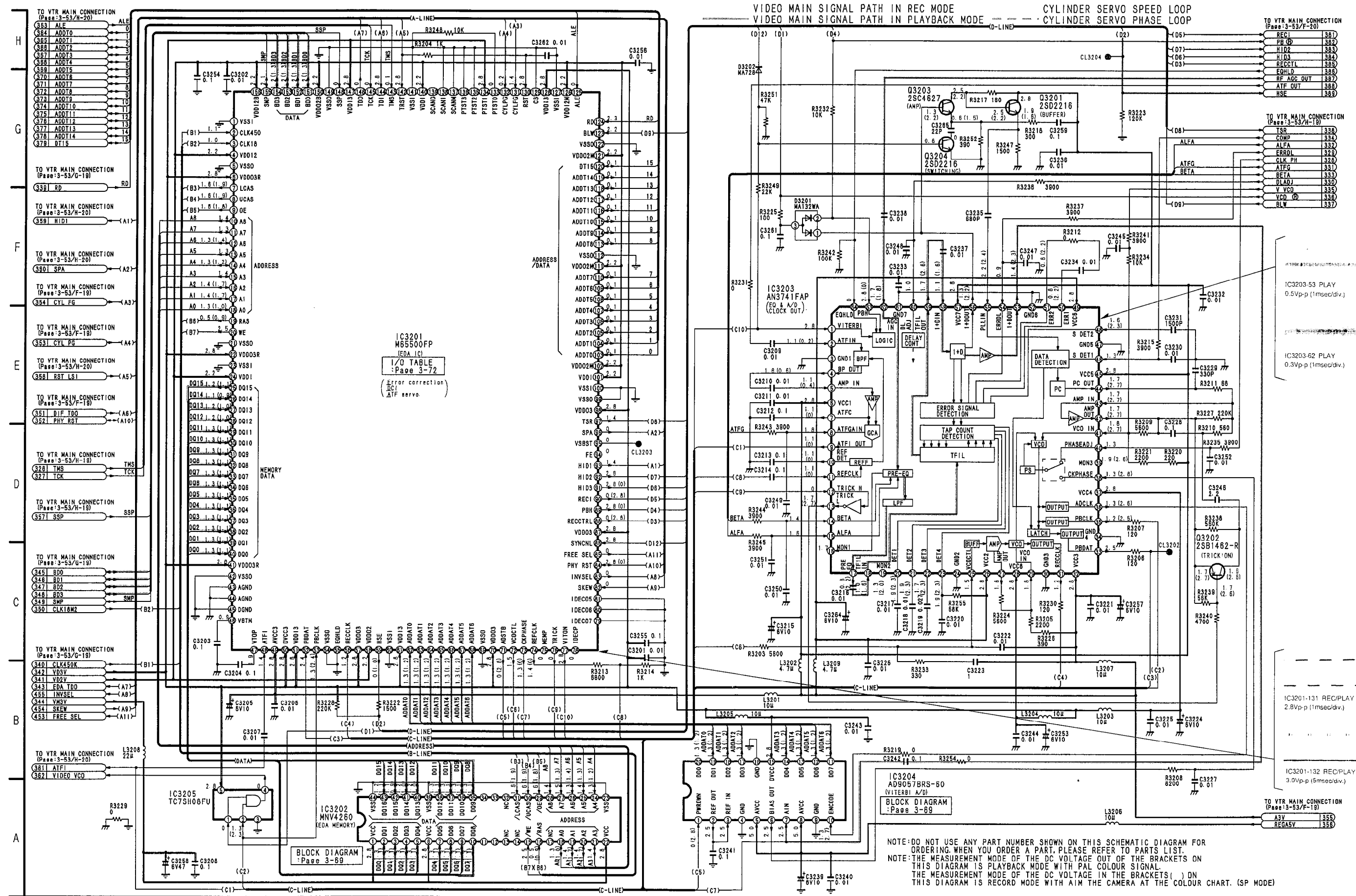
VIDEO2 IC BLOCK
IC3202:MN4260
(SCHEMATIC DIAGRAM:Page 3-70/A-3)



IC3204:AD9057BRS-60
(SCHEMATIC DIAGRAM:Page 3-71/A-8)



3-22. VIDEO2 SCHEMATIC DIAGRAM



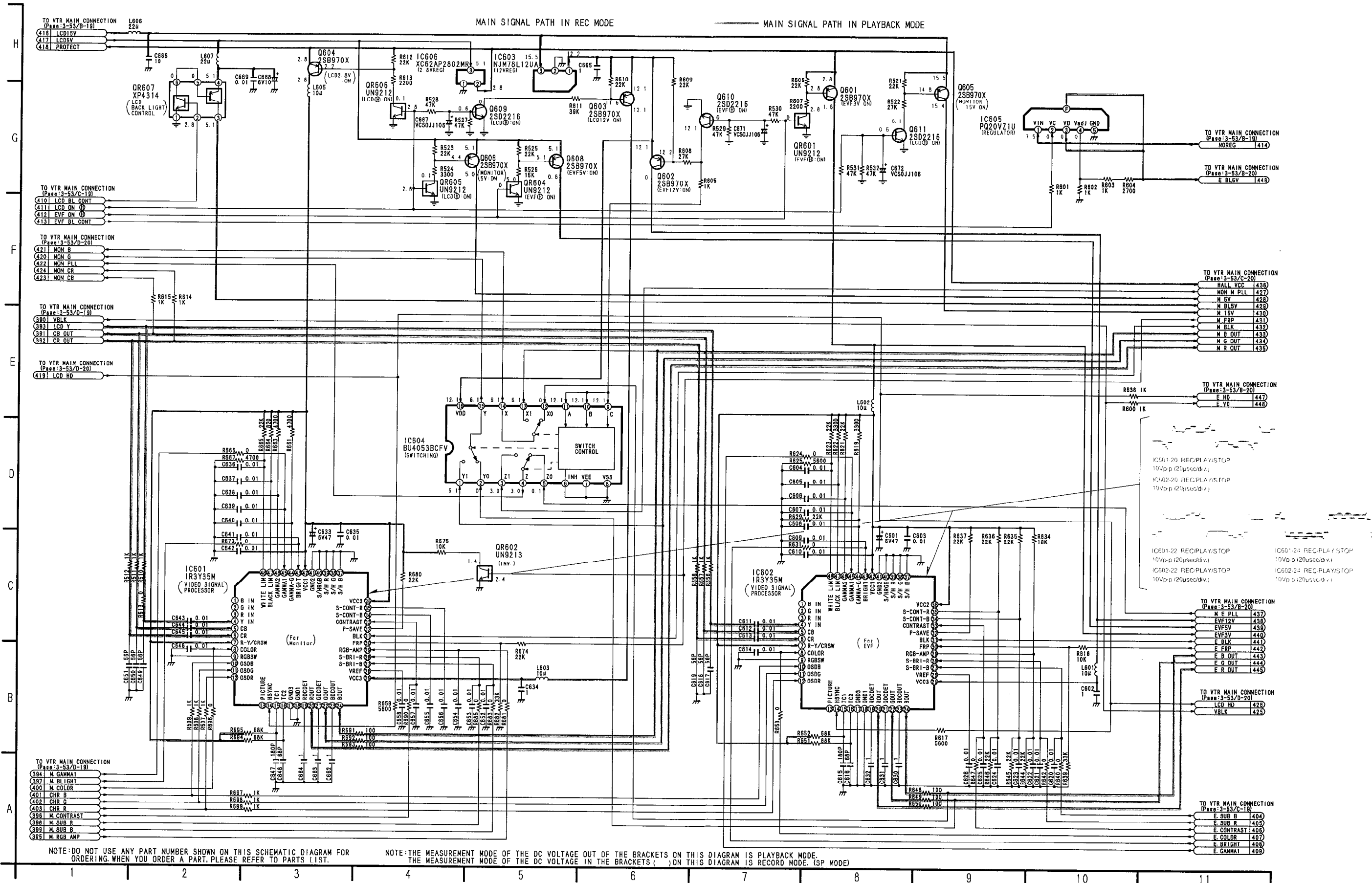
VIDEO 2 I/O TABLE
IC3201 (M65500FP): EDA

PIN. NO.	SIGNAL NAME	I/O	EXPLANATION	PIN. NO.	SIGNAL NAME	I/O	EXPLANATION
1	VSSI	—	VSS for Input Buffer & Inside Logic	57	VDDO3	—	VDD (3V) for Output Buffer
2	CLK450	I	Clock	58	VDDO2	—	VDD (2V) for Output Buffer
3	CLK18	I	Clock	59	HSE	O	
4	VDD12	—	VDD (2V) for Input & Inside Logic	60	VSSI	—	VSS for Input Buffer & Inside Logic
5	VSSO	—	VSS (Output Buffer)	61	VDDI3	—	VDD (3V) for Input Buffer
6	VDDO3R	—	VDD (Output Buffer)	62	ADDAT0	I	Address Data
7	LCAS	O	2/3V Select Correspond (DRAM I/F)	63	ADDAT1	I	Address Data
8	UCAS	O	2/3V Select Correspond (DRAM I/F)	64	ADDAT2	I	Address Data
9	OE	O	2/3V Select Correspond (DRAM I/F)	65	ADDAT3	I	Address Data
10	A8	O	2/3V Select Correspond (DRAM I/F)	66	ADDAT4	I	Address Data
11	A7	O	2/3V Select Correspond (DRAM I/F)	67	ADDAT5	I	Address Data
12	A6	O	2/3V Select Correspond (DRAM I/F)	68	ADDAT6	I	Address Data
13	A5	O	2/3V Select Correspond (DRAM I/F)	69	VSSO	—	(N.C.)
14	A4	O	2/3V Select Correspond (DRAM I/F)	70	VDDO3	—	(N.C.)
15	A3	O	2/3V Select Correspond (DRAM I/F)	71	ADSTB	O	AD STB
16	A2	O	2/3V Select Correspond (DRAM I/F)	72	VCOCTL	O	VCO CTL
17	A1	O	2/3V Select Correspond (DRAM I/F)	73	CKPHASE	O	PHASE Clock
18	A0	O	2/3V Select Correspond (DRAM I/F)	74	REFCLK	O	Reference Clock
19	RAS	O	2/3V Select Correspond (DRAM I/F)	75	MEMP	—	(N.C.)
20	WE	O	2/3V Select Correspond (DRAM I/F)	76	TRICK	O	Tracking Clock
21	VSSO	—	VSS for Output Buffer	77	VITON	O	VIT ON
22	VDDO3R	—	VDD for Output Buffer (DRAM I/F: 2/3V Select Correspond)	78	IDECP	—	(N.C.)
23	VSSI	—	VSS for Input Buffer & Inside Logic	79	IDECO7	—	GND
24	VDDI	—	VDD (2V) for Input & Inside Logic	80	IDECO6	—	GND
25	DQ15	I/O	2/3V Select Correspond (DRAM I/F)	81	IDECO5	—	GND
26	DQ14	I/O	2/3V Select Correspond (DRAM I/F)	82	SKEW	I	SKEW
27	DQ13	I/O	2/3V Select Correspond (DRAM I/F)	83	INVSEL	O	INV SEL
28	DQ12	I/O	2/3V Select Correspond (DRAM I/F)	84	RHYRST	I/O	PHY RST
29	DQ11	I/O	2/3V Select Correspond (DRAM I/F)	85	FREESEL	O	FREE SEL
30	DQ10	I/O	2/3V Select Correspond (DRAM I/F)	86	SYCNL	I	SYNC NL
31	DQ9	I/O	2/3V Select Correspond (DRAM I/F)	87	VDDO3	—	VDD (3V) for Output Buffer
32	DQ8	I/O	2/3V Select Correspond (DRAM I/F)	88	RECCTRL	O	REC Control
33	DQ7	I/O	2/3V Select Correspond (DRAM I/F)	89	PBH	O	Play Back ④ Signal
34	DQ6	I/O	2/3V Select Correspond (DRAM I/F)	90	RECI	O	RECI
35	DQ5	I/O	2/3V Select Correspond (DRAM I/F)	91	HID3	O	Head Switching Pulse
36	DQ4	I/O	2/3V Select Correspond (DRAM I/F)	92	HID2	O	Head Switching Pulse
37	DQ3	I/O	2/3V Select Correspond (DRAM I/F)	93	HID1	O	Head Switching Pulse
38	DQ2	I/O	2/3V Select Correspond (DRAM I/F)	94	FE	—	(N.C.)
39	DQ1	I/O	2/3V Select Correspond (DRAM I/F)	95	VSBST	O	VS BST
40	DQ0	I/O	2/3V Select Correspond (DRAM I/F)	96	SPA	O	ATF Sampling Pulse
41	VDDR3R	—	VDD for Output Buffer (DRAM I/F: 2/3V Select Correspond)	97	TSR	O	Head Switching Reference
42	VSSO	—	VSS for Output Buffer	98	VDDO3	—	VDD (3V) for Output Buffer
43	AGND	—	Analogue GND	99	VSSO	—	VSS for Output Buffer
44	AGND	—	Analogue GND	100	VSSI	—	VSS for Input Buffer & Inside Logic
45	DGND	—	Digital GND	101	VDDI	—	VDD (2V) for Input & Inside Logic
46	VBTM	—	Reference Analogue Voltage (BOTTOM)	102	VDDO2M	—	VDD for Output Buffer (MCU I/F: 2/3V Select Correspond)
47	VTOP	—	Reference Analogue Voltage (TOP)	103	ADDAT0	I/O	2/3V Select Correspond (MCU I/F)
48	ATFI	I	Analogue Input (Vin: 1.0Vp-p)	104	ADDAT1	I/O	2/3V Select Correspond (MCU I/F)
49	AVCC3	—	Analogue VCC	105	ADDAT2	I/O	2/3V Select Correspond (MCU I/F)
50	DVCC3	—	Digital VCC	106	ADDAT3	I/O	2/3V Select Correspond (MCU I/F)
51	VDDI3	—	VDD (3V) for Low Amplitude Buffer	107	ADDAT4	I/O	2/3V Select Correspond (MCU I/F)
52	PBDAT	I	Low Amplitude Buffer	108	ADDAT5	I/O	2/3V Select Correspond (MCU I/F)
53	PBCLK	I	Low Amplitude Buffer	109	ADDAT6	I/O	2/3V Select Correspond (MCU I/F)
54	VSSO	—	VSS for Low Amplitude	110	ADDAT7	I/O	2/3V Select Correspond (MCU I/F)
55	EQHLD	I	Low Amplitude Buffer	111	VDDO2M	—	VDD for Output Buffer (MCU I/F: 2/3V Select Correspond)
56	RECCLK	I	Low Amplitude Buffer	112	VSSO	—	VSS for Output Buffer
				113	ADDAT8	I/O	2/3V Select Correspond (MCU I/F)

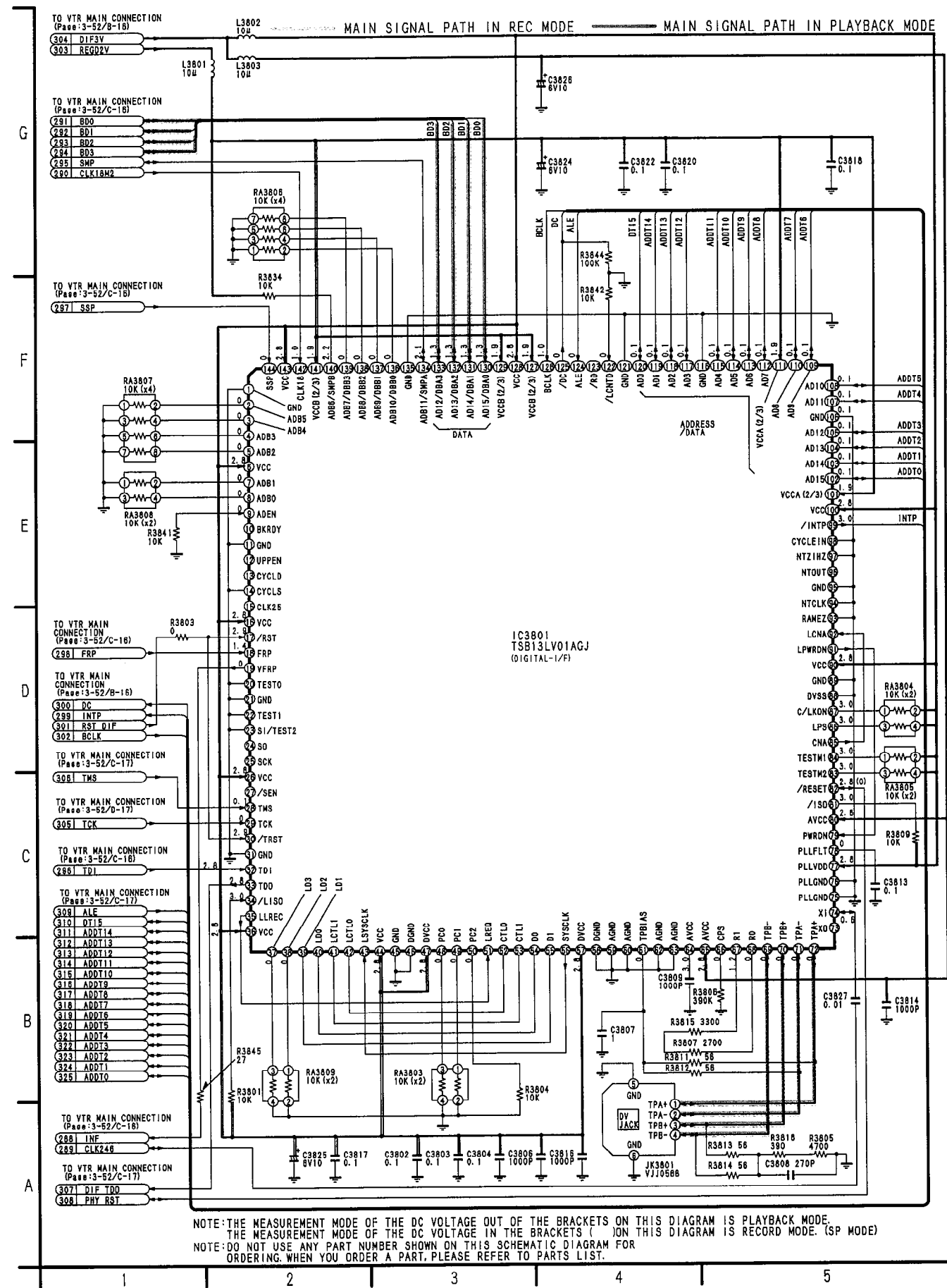
Back Page:
VIDEO2 Section

PIN. NO.	SIGNAL NAME	I/O	EXPLANATION	PIN. NO.	SIGNAL NAME	I/O	EXPLANATION
114	ADDAT9	I/O	2/3V Select Correspond (MCU I/F)	138	SCANI	—	GND
115	ADDAT10	I/O	2/3V Select Correspond (MCU I/F)	139	SCANO	—	(N.C.)
116	ADDAT11	I/O	2/3V Select Correspond (MCU I/F)	140	VDDI	—	VDD (2V) for Input & Inside Logic
117	ADDAT12	I/O	2/3V Select Correspond (MCU I/F)	141	VSSI	—	VSS for Input Buffer & Inside Logic
118	ADDAT13	I/O	2/3V Select Correspond (MCU I/F)	142	TRST	I	BSCAN Reset Input
119	ADDAT14	I/O	2/3V Select Correspond (MCU I/F)	143	TMS	I	BSCAN Mode Input
120	DT15	I/O	2/3V Select Correspond (MCU I/F)	144	TDI	I	BSCAN Data Input
121	VDDO2M	—	VDD for Output Buffer (MCU I/F: 2/3V Select Correspond)	145	TCK	I	BSCAN Clock Input
122	VSSO	—	VSS for Output Buffer	146	TDO	O	BSCAN Data Output
123	BLW	I	2/3V Select Correspond (MCU I/F)	147	VDDI3	—	VDD (3V) for Input Buffer
124	RD	I	2/3V Select Correspond (MCU I/F)	148	SSP	I	SSP
125	ALE	I	2/3V Select Correspond (MCU I/F)	149	VSSO	—	VSS for Output Buffer
126	VDDI2M	—	VDD for Input Buffer (MCU I/F: 2/3V Select Correspond)	150	VSDDO2B	—	VDD for Output Buffer (DVC BUS: 2/3V Select Correspond)
127	VSSI	—	VSS for Input Buffer & Inside Logic	151	BD0	I/O	2/3V Select Correspond (DVC BUS I/F)
128	VDDI3	—	VDD (3V) for Input Buffer	152	BD1	I/O	2/3V Select Correspond (DVC BUS I/F)
129	CS	—	GND	153	BD2	I/O	2/3V Select Correspond (DVC BUS I/F)
130	RST	I	Reset	154	BD3	I/O	2/3V Select Correspond (DVC BUS I/F)
131	CYLFG	I	Cylinder FG	155	SMP	I/O	2/3V Select Correspond (DVC BUS I/F)
132	CYLPG	I	Cylinder PG	156	VDDI2B	—	VDD for Input Buffer (DVC BUS: 2/3V Select Correspond)
133	PTST0	I	IC-Test Control				
134	PTST1	I	IC-Test Control				
135	PTST2	—	GND				
136	PTST3	—	GND				
137	SCANM	—	GND				

3-23. LCD SCHEMATIC DIAGRAM

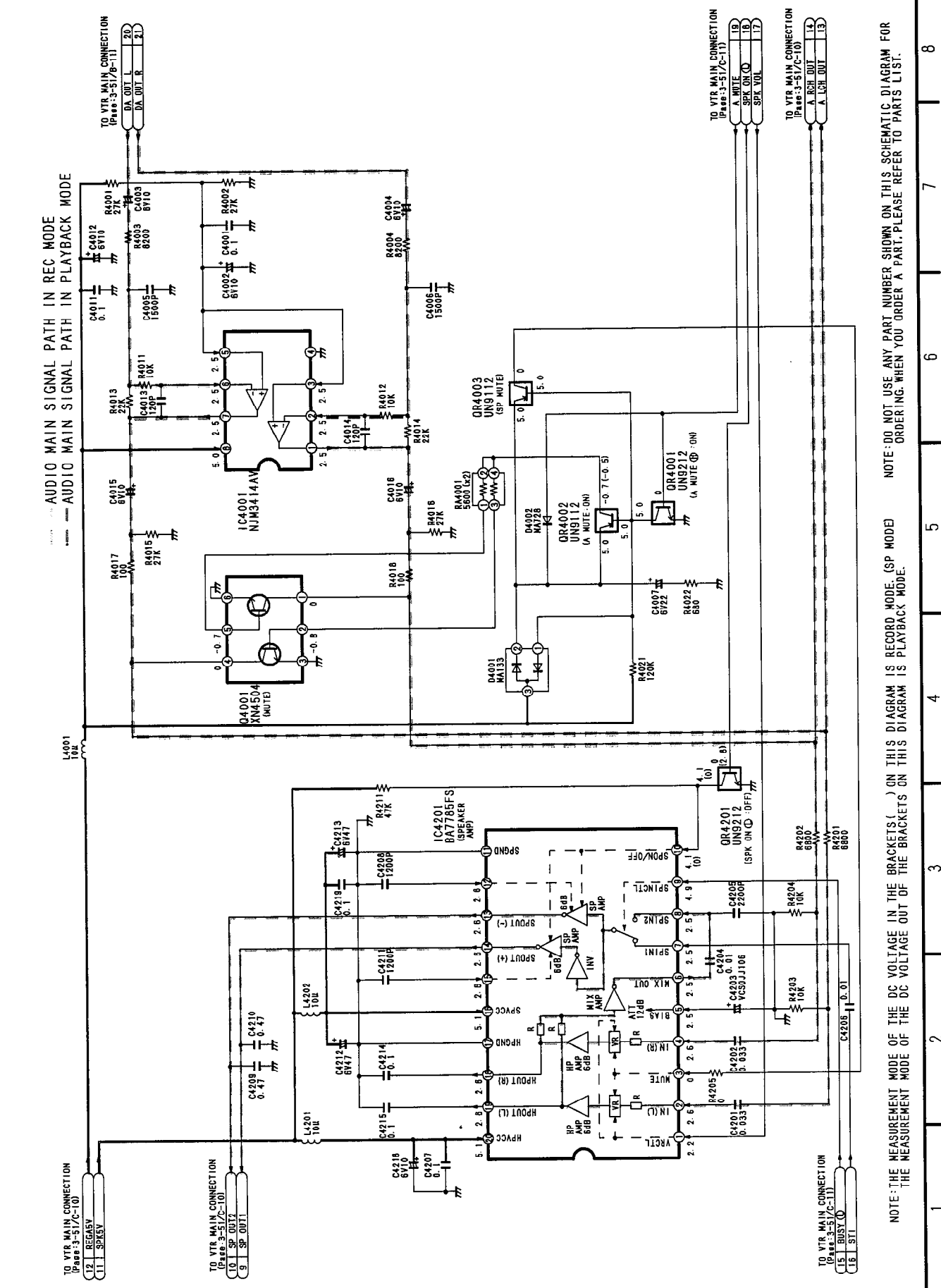


3-24. DIGITAL I/F SCHEMATIC DIAGRAM



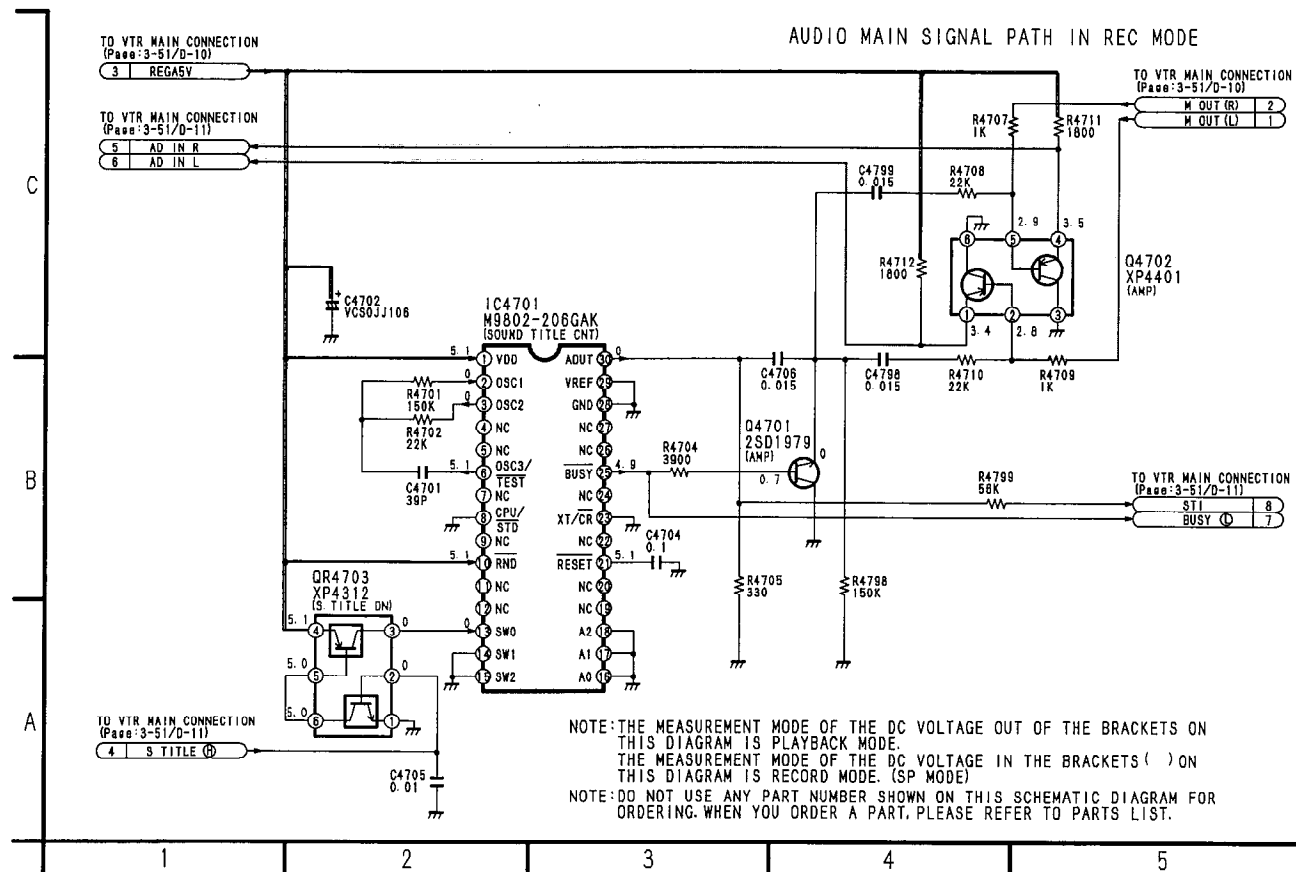
Back Page:
LCD Section

3-25. AUDIO SCHEMATIC DIAGRAM

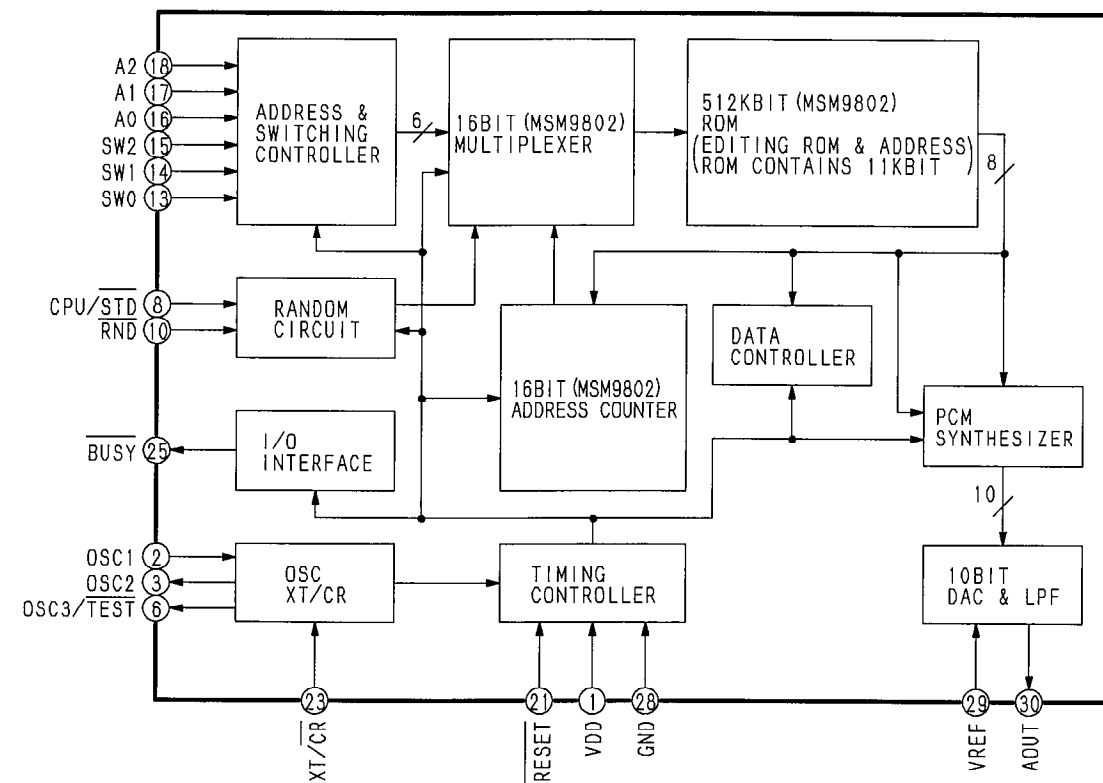


NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART, PLEASE REFER TO PARTS LIST.

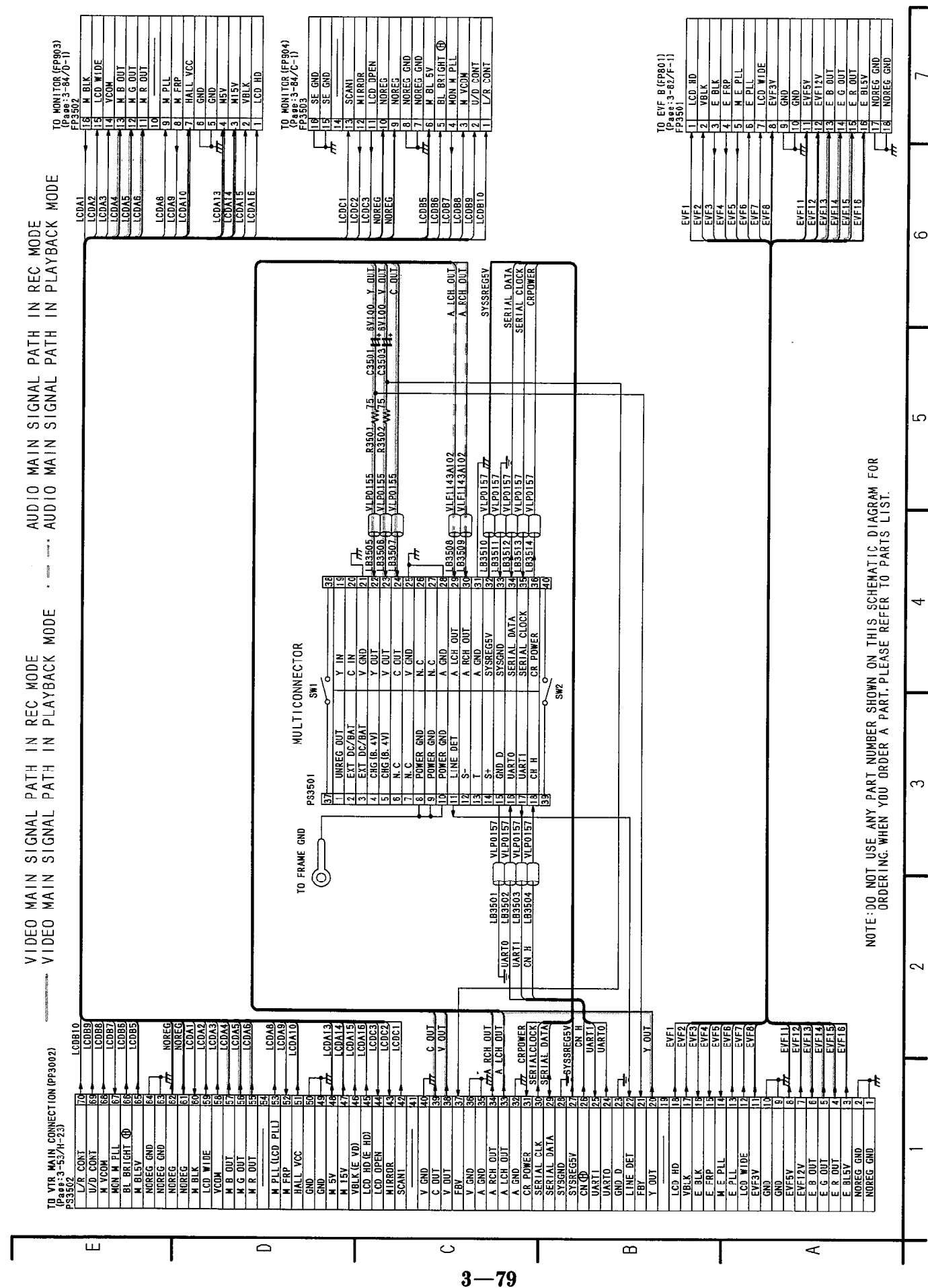
3-26. SOUND TITLE SCHEMATIC DIAGRAM



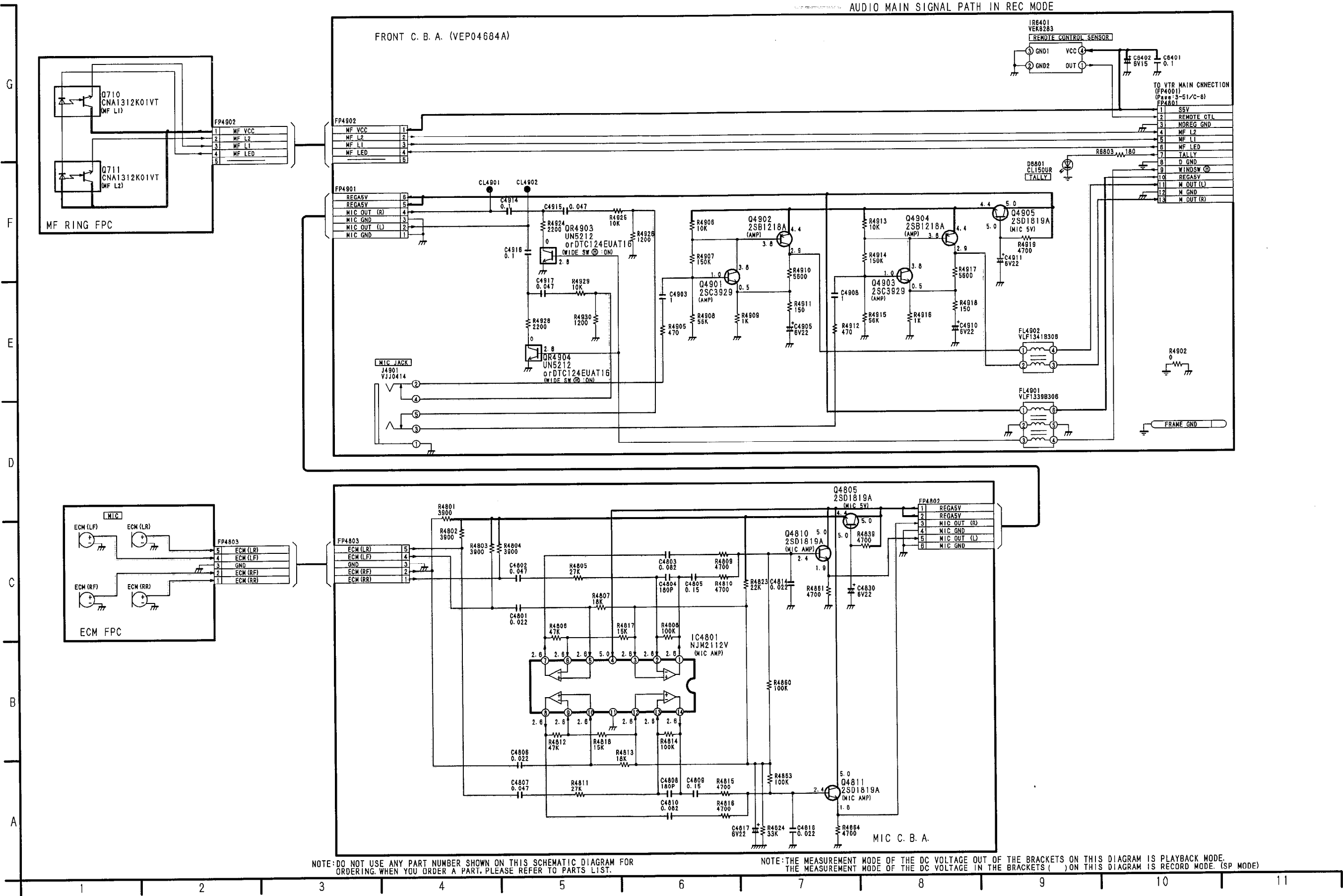
SOUND TITLE IC BLOCK
IC4701:M9802-206GAK
(SCHEMATIC DIAGRAM:Page 3-78/B-2)



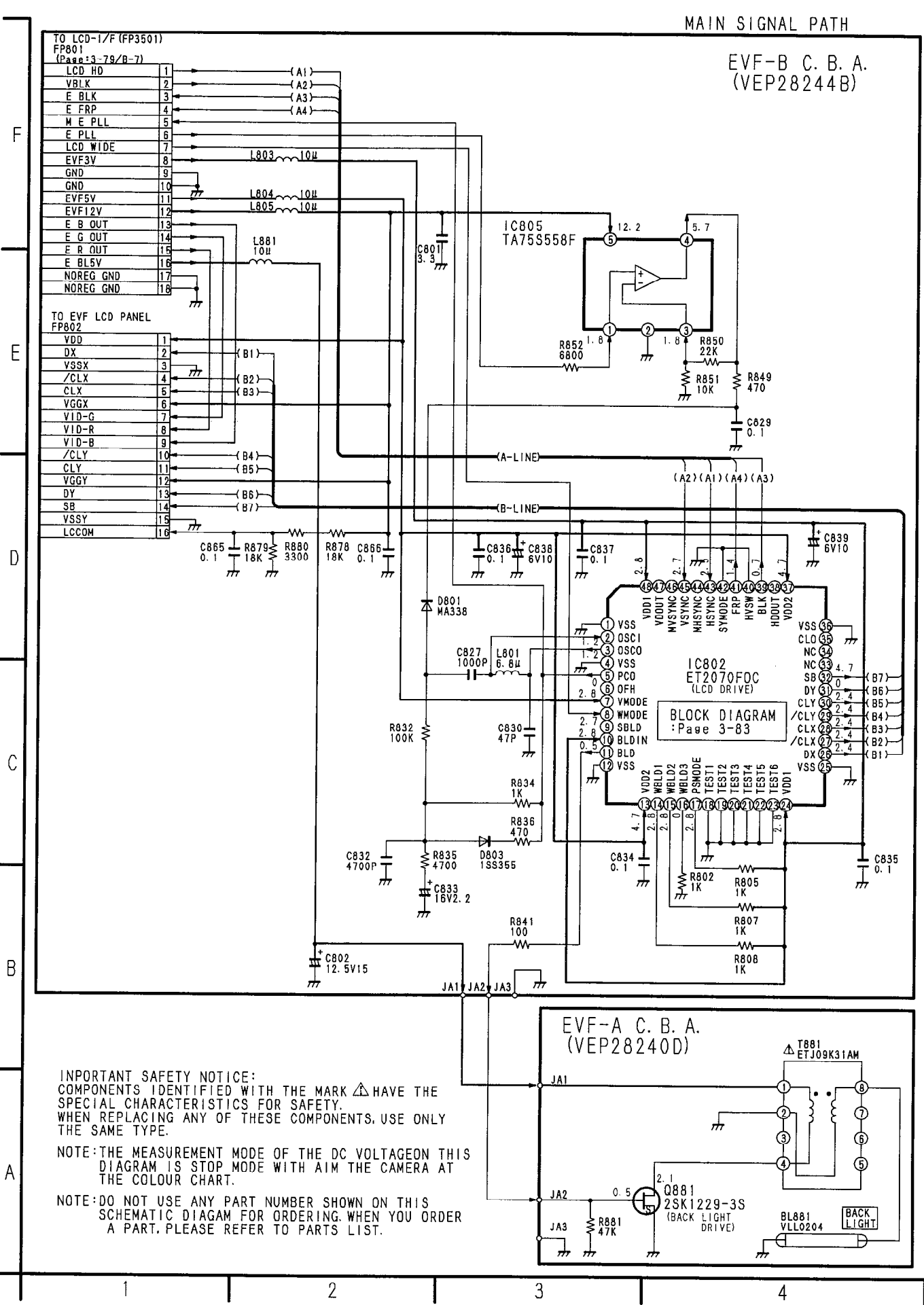
3-27. LCD I/F SCHEMATIC DIAGRAM



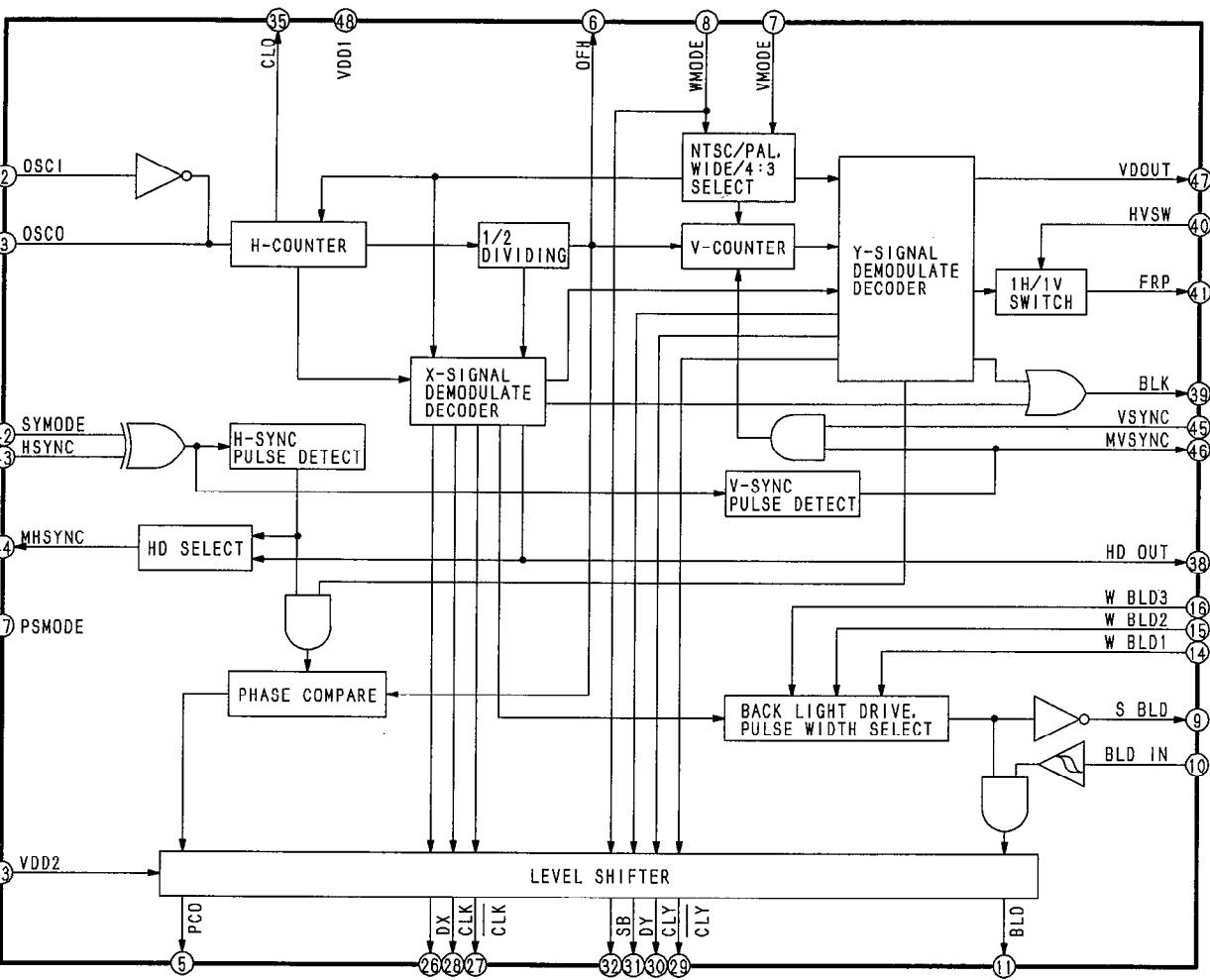
3-28. FRONT & MF RING SCHEMATIC DIAGRAM



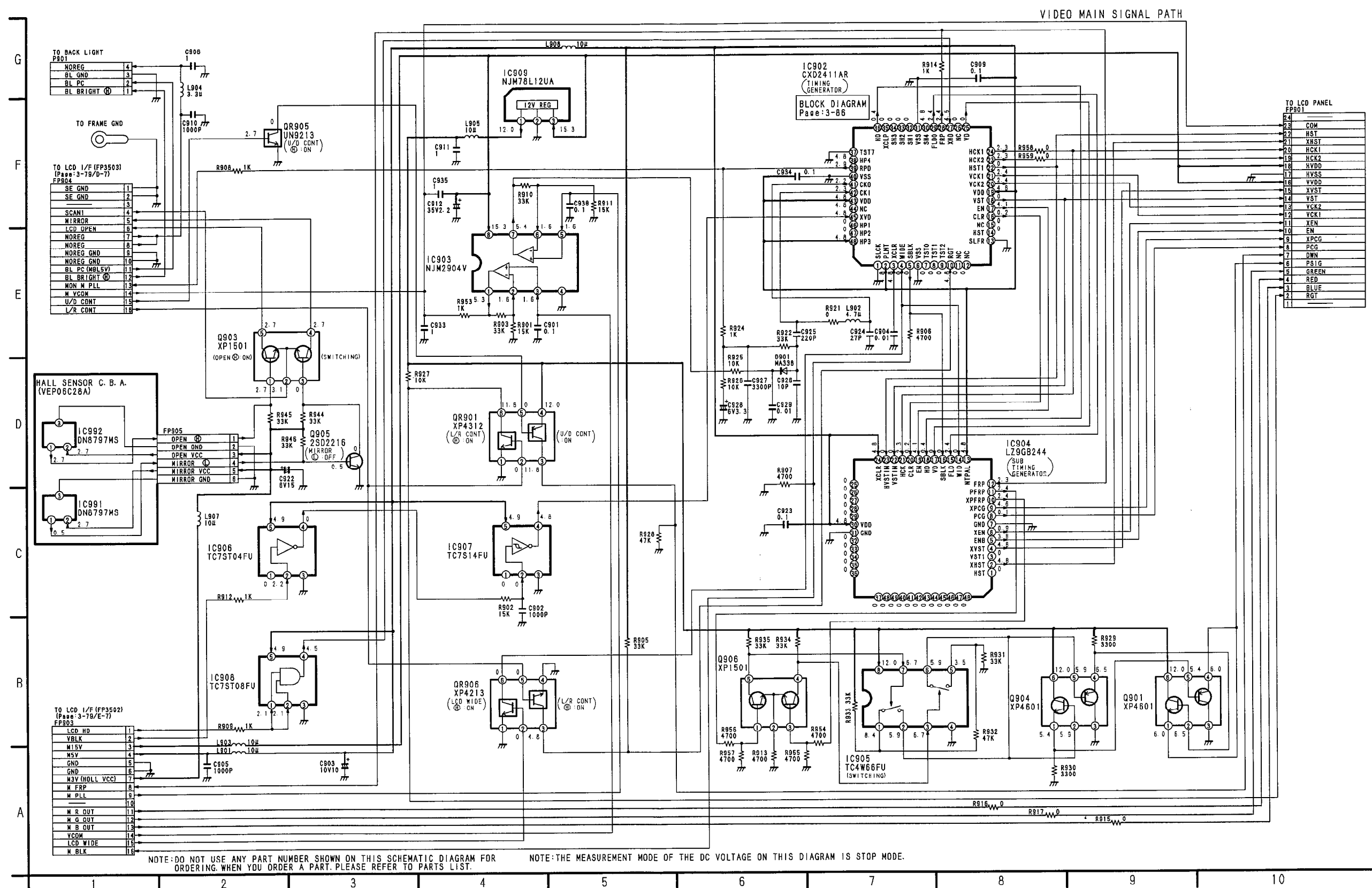
3-29. E.V.F. (A) & E.V.F. (B) SCHEMATIC DIAGRAM



EVF-B IC BLOCK
IC802:ET2070FOC
(SCHEMATIC DIAGRAM:Page 3-82/D-4)

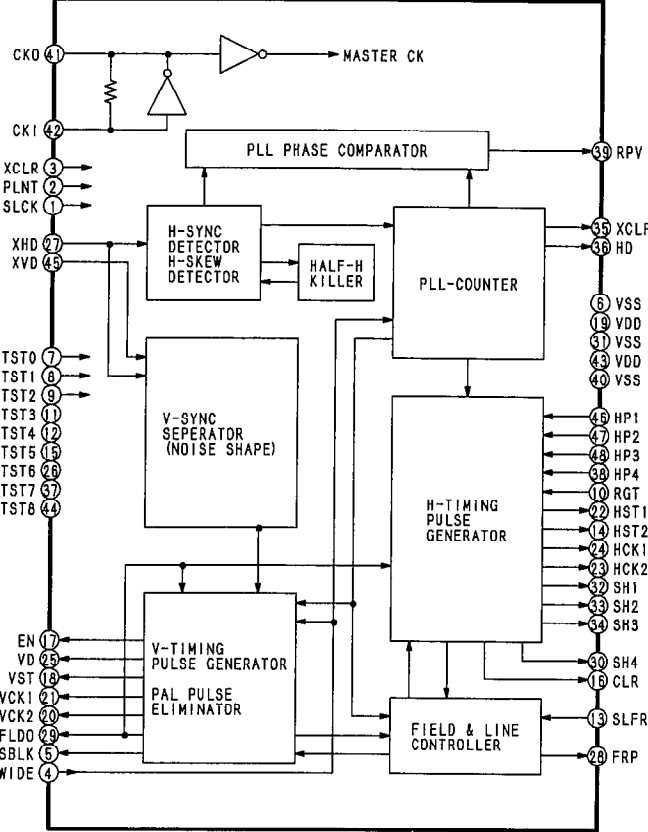


3-30. MONITOR & HALL SENSOR SCHEMATIC DIAGRAM

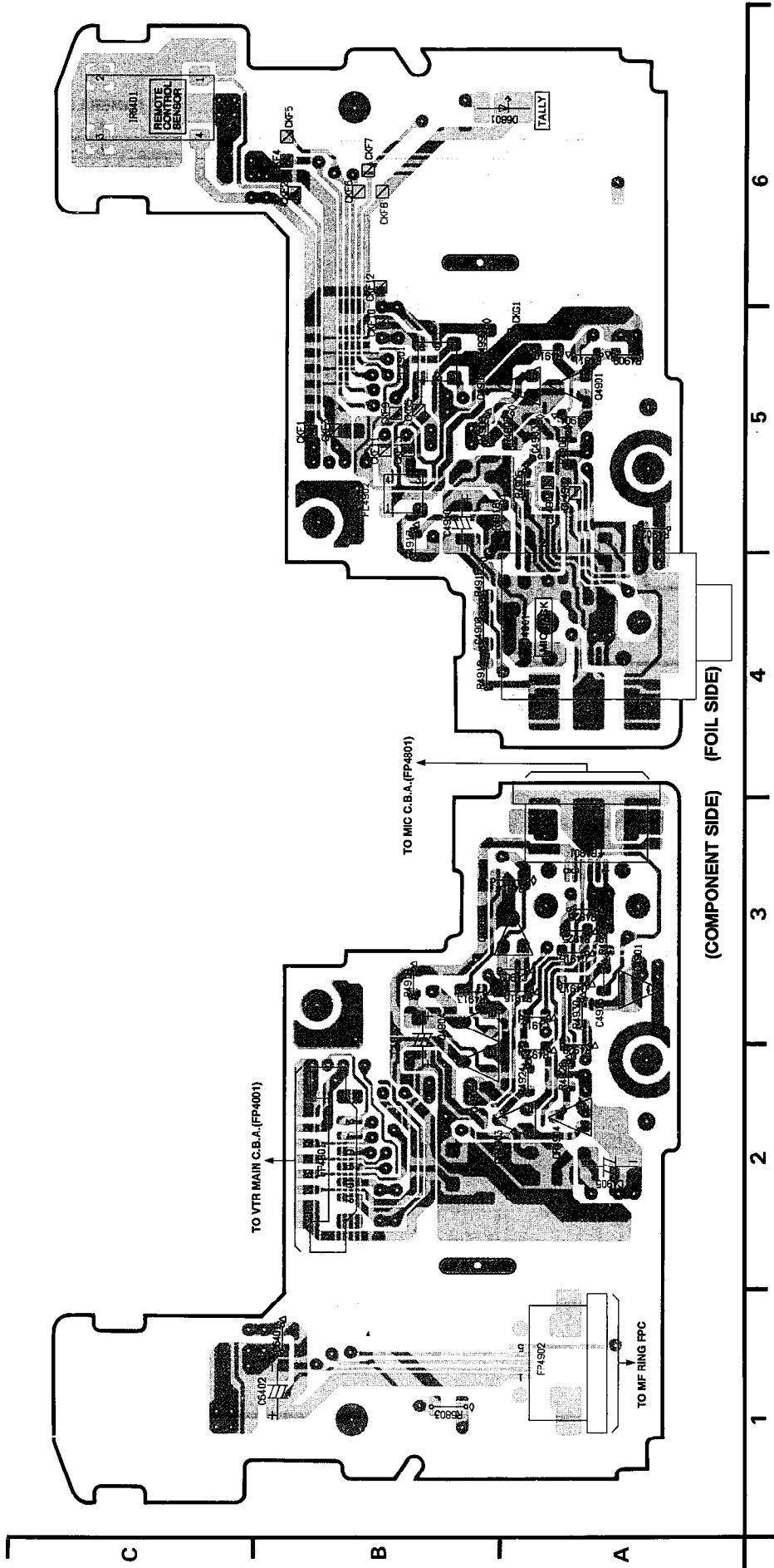
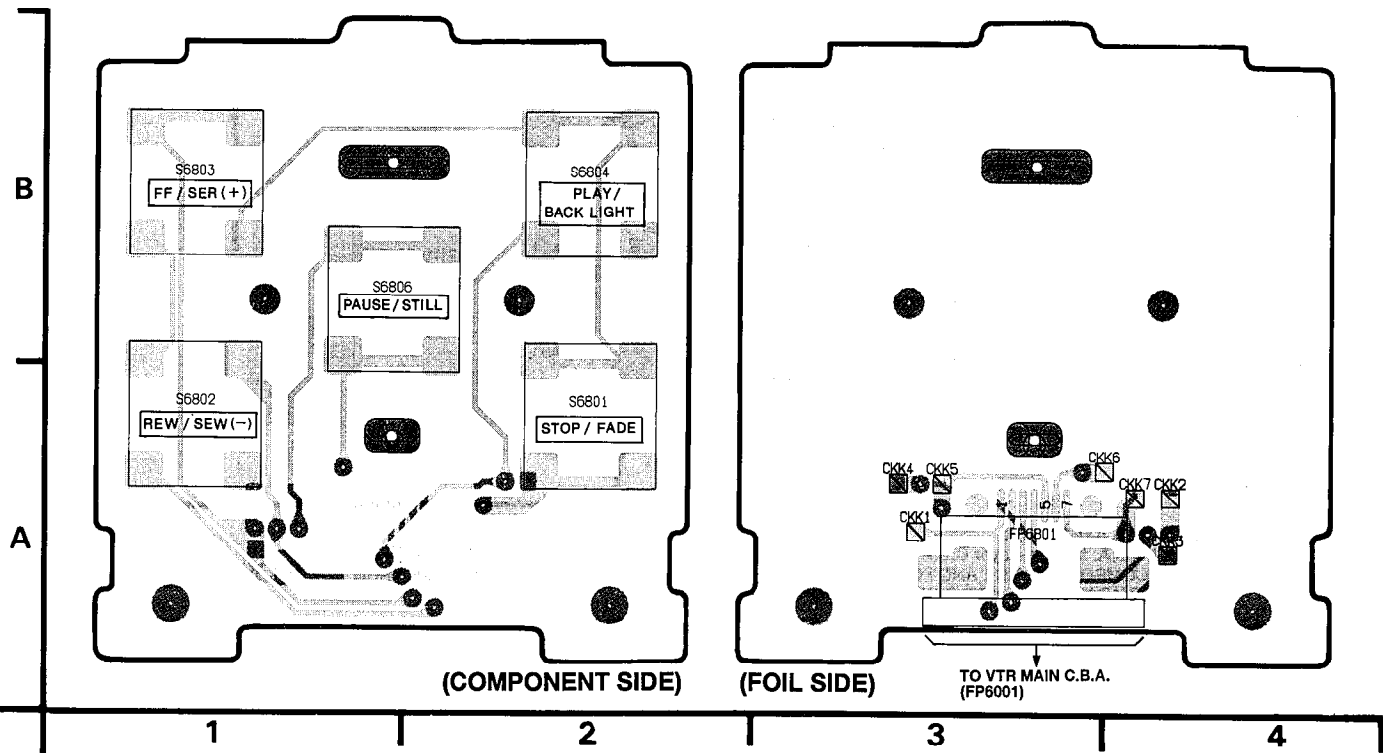


3-32. FRONT C.B.A. (VEP04684A)

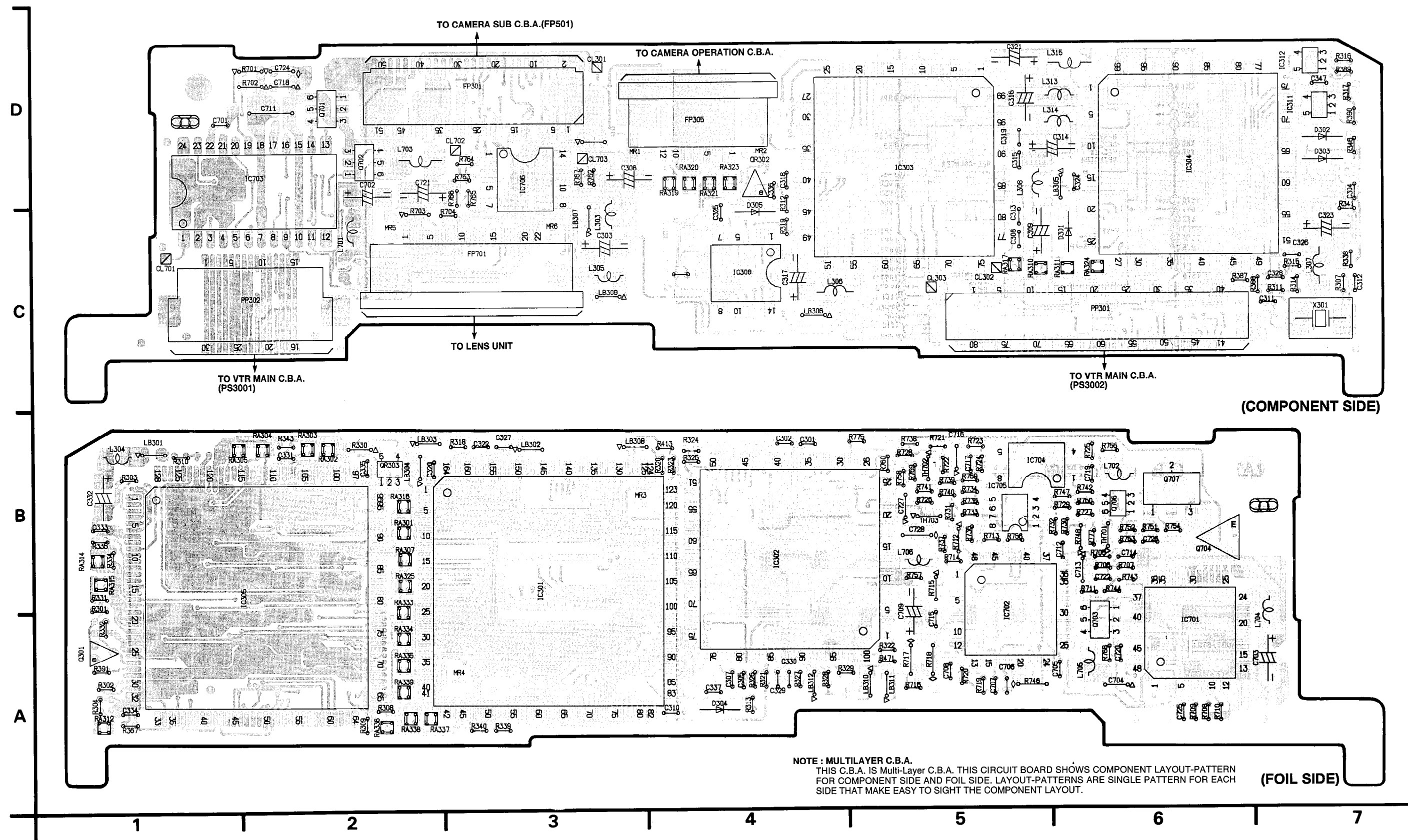
MONITOR IC BLOCK
IC902:CXD2411AR
(SCHEMATIC DIAGRAM:Page 3-85/F-7)



3-31. TOP OPERATION C.B.A. (VEP06C24A)



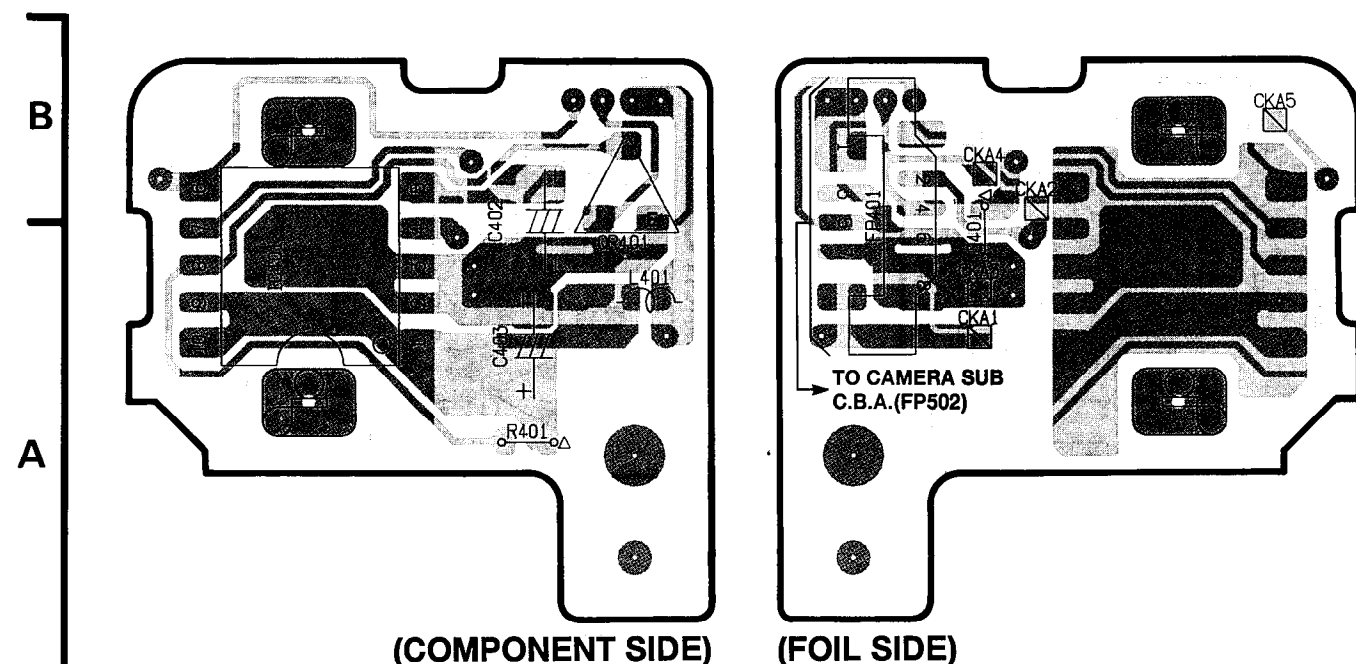
3-33. CAMERA MAIN [Process , Camera Operation Section] C.B.A. (VEP23443B)



CAMERA MAIN C.B.A.											
Integrated Circuit		Coil		C313	C-5	C728	B-5	R703	C-2	R756	B-5
IC301	B-3	L303	C-3	C314	D-6	Resistor		R704	C-3	R757	B-5
IC302	B-4	L304	B-1	C315	D-5			R705	B-6	R758	B-5
IC303	D-5	L305	C-3	C316	D-5	R301	B-1	R706	B-6	R759	B-5
IC304	D-6	L306	C-4	C317	C-4	R302	A-1	R707	B-6	R760	B-5
IC305	B-2	L307	C-7	C318	D-4	R303	B-1	R708	A-6	R762	D-3
IC308	C-4	L308	D-5	C319	D-5	R304	A-1	R709	A-6	R763	D-3
IC311	D-7	L313	D-6	C320	B-2	R307	C-7	R710	A-6	R764	D-3
IC312	D-7	L314	D-6	C321	D-5	R308	A-2	R711	B-6	R765	D-3
IC701	A-6	L315	D-6	C322	B-3	R309	A-2	R712	B-5	R766	D-3
IC702	A-5	L701	C-2	C323	C-7	R310	B-2	R713	B-5	R767	D-3
IC703	D-2	L702	B-6	C324	D-6	R311	C-7	R714	B-5	R768	A-6
IC704	B-5	L703	D-2	C325	C-4	R312	C-4	R715	B-5	R769	B-5
IC705	B-5	L704	A-7	C326	C-7	R313	A-4	R716	A-5	R775	B-5
IC706	D-3	L705	A-6	C327	B-3	R314	C-7	R717	A-5	R777	B-6
Transistor		L706	B-5	C328	C-7	R315	C-7	R718	A-5	Resistor Array	
		LB301	B-1	C329	A-4	R316	D-7	R719	A-5		
Q301	A-1	LB302	B-3	C330	A-4	R317	D-7	R720	A-5	RA301	B-2
Q701	D-2	LB303	B-2	C331	B-2	R318	B-3	R721	B-5	RA302	B-2
Q702	D-2	LB304	B-2	C332	B-1	R319	C-4	R722	B-5	RA303	B-2
Q703	A-6	LB305	D-6	C333	B-1	R320	B-4	R723	B-5	RA304	B-2
Q704	B-6	LB306	C-4	C334	A-1	R321	A-4	R724	B-5	RA305	B-1
Q706	B-6	LB307	C-3	C335	B-2	R322	A-5	R725	B-6	RA307	B-2
Q707	B-6	LB308	B-3	C336	D-4	R323	B-4	R726	B-5	RA310	C-5
Transistor & Resistor		LB309	C-3	C337	A-4	R324	B-4	R727	B-6	RA311	C-6
		LB310	A-5	C347	D-7	R325	B-4	R728	B-5	RA312	A-1
QR302	D-4	LB311	A-5	C701	D-1	R326	A-4	R729	B-6	RA314	B-1
QR303	B-2	LB312	A-4	C702	D-2	R327	A-4	R730	B-6	RA315	B-1
Test Point		Thermal Resistor		C703	A-7	R328	A-4	R731	B-5	RA316	B-2
				C704	A-6	R329	A-4	R732	B-6	RA317	C-5
CL301	D-3	TH701	B-6	C705	A-6	R330	A-2	R733	B-5	RA319	D-4
CL302	C-5	TH702	B-5	C706	A-5	R331	B-1	R734	B-5	RA320	D-4
CL303	C-5	TH703	B-5	C707	A-5	R332	A-1	R735	B-5	RA321	D-4
CL701	C-1	Crystal Oscillator		C708	A-5	R334	B-1	R736	B-5	RA323	D-4
CL702	D-3			C709	A-5	R335	B-1	R737	B-5	RA324	C-6
CL703	D-3	X301	C-7	C711	D-2	R338	C-7	R738	B-5	RA325	B-2
Diode		Capacitor		C712	B-6	R339	A-3	R739	B-5	RA333	B-2
				C713	B-6	R340	A-3	R740	B-5	RA334	A-2
D301	C-6	C301	B-4	C714	B-6	R341	C-7	R741	B-5	RA335	A-2
D302	D-7	C302	B-4	C715	A-5	R343	B-2	R742	B-6	RA336	A-2
D303	D-7	C303	C-3	C716	B-5	R346	D-7	R743	B-6	RA337	A-2
D304	A-4	C304	D-7	C717	B-5	R367	A-1	R744	B-6	RA338	A-2
D305	C-4	C305	A-4	C718	D-2	R387	C-6	R746	A-5	RA339	A-2
Connector		C306	D-3	C719	B-6	R388	C-7	R747	B-6		
		C307	A-4	C720	A-6	R389	D-7	R748	B-6		
FP301	D-3	C308	C-5	C721	D-2	R390	D-7	R750	B-6		
FP305	D-4	C309	C-5	C722	B-6	R391	A-1	R751	B-6		
FP701	C-3	C310	A-4	C724	D-2	R413	B-4	R752	B-6		
PP301	C-6	C311	C-7	C725	A-6	R471	A-5	R753	B-6		
PP302	C-2	C312	C-7	C726	B-6	R701	D-2	R754	B-6		
				C727	B-5	R702	D-2	R755	B-6		

ADDRESS INFORMATION

3-34. AWT SENSOR C.B.A. (VEP22270A)



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NOTE: MULTILAYER C.B.A.

FIG. 1: MULTILAYER C.B.A. THIS C.B.A. IS Multi-Layer C.B.A. THIS CIRCUIT BOARD SHOWS COMPONENT LAYOUT-PATTERN FOR COMPONENT SIDE AND FOIL SIDE. LAYOUT-PATTERNS ARE SINGLE PATTERN FOR EACH SIDE THAT MAKE EASY TO SIGHT THE COMPONENT LAYOUT.

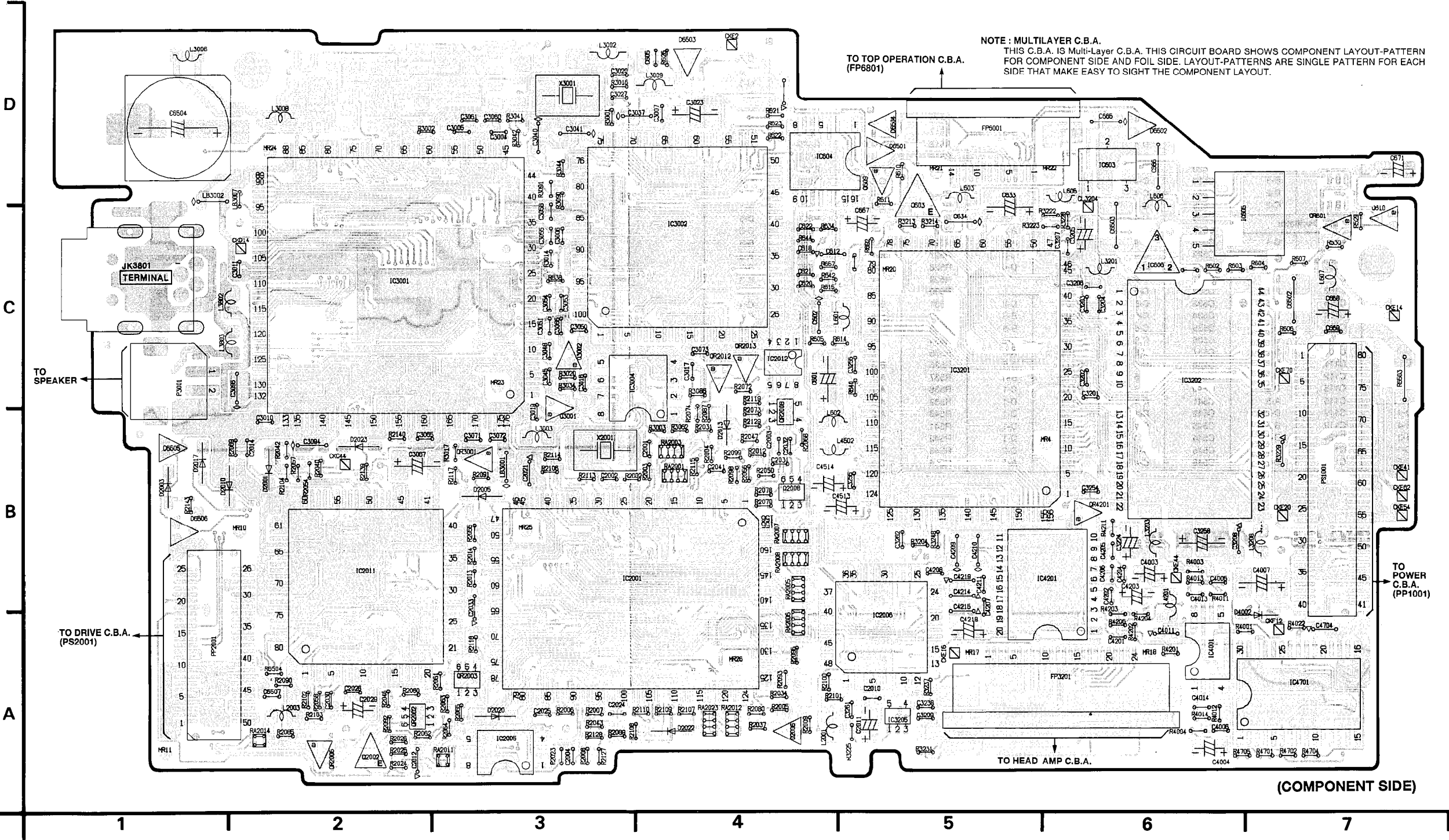
TO CAMERA MAIN C.B.A.(FP301)

3-38. VTR MAIN [VTR Main Connection , System Control & Servo , Video1 , Video2 , LCD , Digital I/F , Audio , Sound Title Section] C.B.A.
(VEP03E52A)

VTR MAIN C.B.A. (1)																																	
Integrated Circuit		IC2004	B-4	IC2015	D-7	IC3204	C-3	IC6506	D-6	Q610	C-7	Q3203	A-3	QR606	C-1	QR2010	B-6	Test Point		CKD3	C-5	CKD78	D-5	CKE62	D-7	CL3004	C-4	D2006	A-4	D2021	A-5		
IC601	D-3	IC2005	A-3	IC3001	C-2	IC3205	A-5	Transistor	Q611	Q2001	C-1	Q3204	A-4	QR607	C-1	QR2011	B-7	C-4	CKC43	B-5	CKD6	C-5	CKD79	D-5	CKE64	D-1	CL3202	B-3	D2007	A-4	C-4	D2022	A-4
		IC2006	A-5	IC3002	C-4	IC3801	C-6																										
IC602	D-3	IC2007	A-5	IC3003	C-4	IC4001	A-6	Q601	C-2	Q2002	A-2	Q4701	A-1	QR2002	A-2	QR2013	C-4	CKC45	A-6	CKD11	C-5	CKE2	D-4	CKE70	C-7	CKF11	A-1	CL3204	C-4	D2011	A-5	D2024	B-5
IC603	D-6	IC2008	B-5	IC3004	C-3	IC4201	B-6	Q602	C-2	Q2003	A-4	Q4702	A-1	QR2003	A-3	QR3001	B-3	CKC46	A-5	CKD12	C-6	CKE14	C-7	CKF11	A-1	Diode	CL3004	C-4	D2012	B-5	D2025	B-6	
IC604	D-4	IC2009	B-7	IC3005	D-5	IC4501	B-3	Q603	C-5	Q2006	B-4	Transistor & Resistor		QR2004	A-4	QR4001	B-2	CKC47	C-7	CKD13	C-6	CKE16	A-5	CKF12	A-1								D2001
IC605	C-7	IC2010	A-6	IC3006	C-2	IC4701	A-1	Q604	C-2	Q2008	B-4	QR601	C-7	QR2005	A-4	QR4002	B-2	CKC48	C-5	CKD14	C-2	CKE20	B-7	CKF13	A-7	D2002	B-6	D2016	A-4	D4001	B-1		
IC606	C-6	IC2011	B-2	IC3007	D-6	IC6501	A-6	Q605	C-1	Q3001	B-3																					QR2006	A-1
IC2001	B-3	IC2012	C-4	IC3201	C-5	IC6502	A-6	Q606	B-1	Q3002	C-3	QR602	C-3	QR2007	A-5	QR4201	B-6	CKC50	A-5	CKD71	D-6	CKE44	B-6	CKG5	A-5	D2004	A-5	D2018	A-4	D6501	D-5		
IC2002	B-5	IC2013	B-6	IC3202	C-6	IC6503	A-6	Q608	B-1	Q3201	A-3	QR604	A-1	QR2008	B-4	QR4703	A-2	CKC51	B-6	CKD72	D-6	CKE58	B-1	CL3002	C-5	D2005	B-3	D2020	A-3	D6502	D-6		
IC2003	B-4	IC2014	A-5	IC3203	A-3	IC6505	D-6	Q609	D-5	Q3202	B-2	QR605	A-1	QR2009	B-5																		

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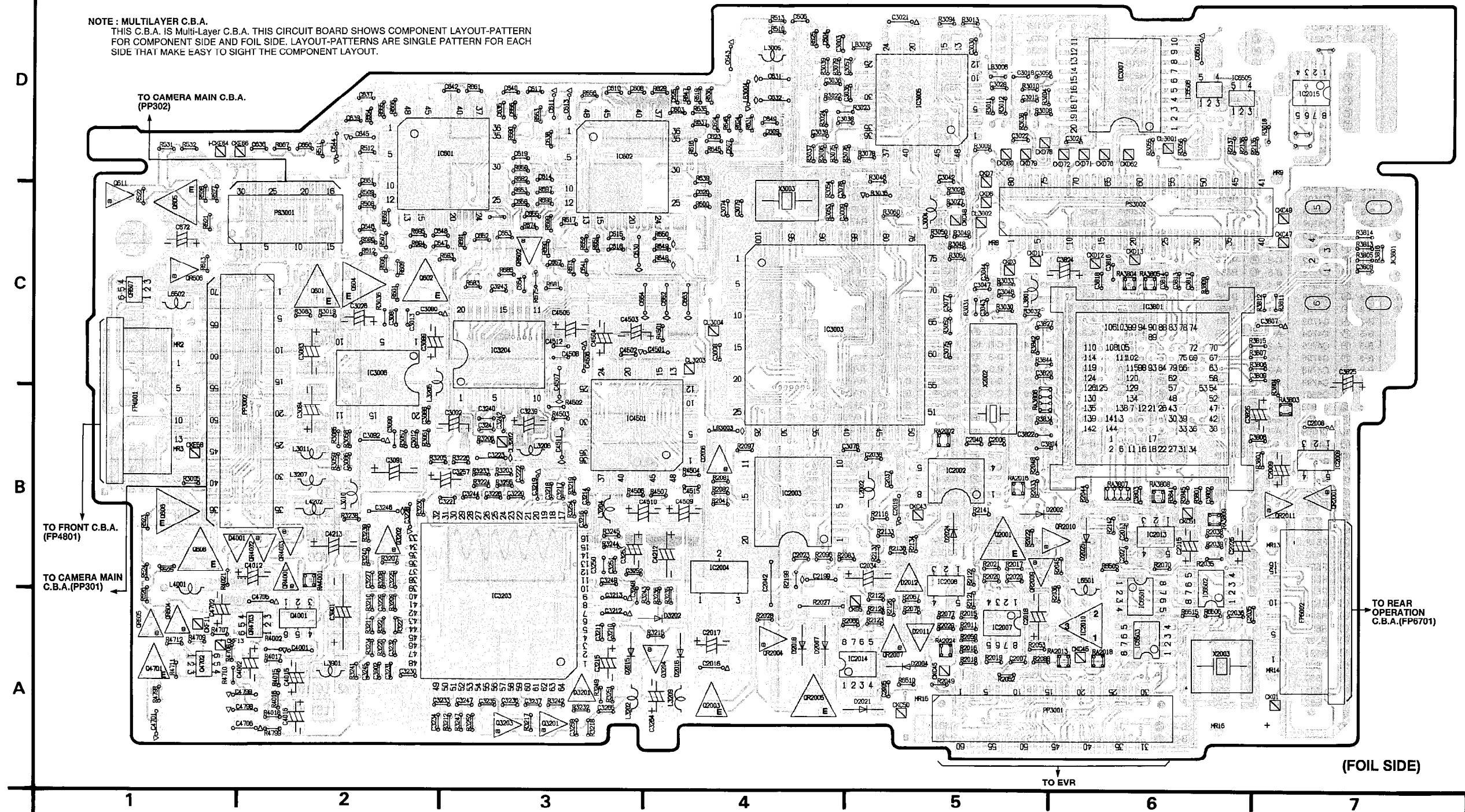
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Back Page: MF RING
& CAMERA OPERATION C.B.A. Section

VTR MAIN C.B.A. (2)																																																	
D6503	D-4	Ⓢ	PP2001	A-1	Ⓢ	L603	D-5	Ⓢ	L3006	D-1	Ⓢ	L3207	B-2	Ⓢ	L6501	B-6	Ⓢ	Crystal Oscillator			C603	D-4	Ⓢ	C614	D-3	Ⓢ	C625	D-4	Ⓢ	C639	D-2	Ⓢ	C650	D-2	Ⓢ	C664	C-4	Ⓢ	C2004	A-3	Ⓢ	C2015	B-6	Ⓢ	C2027	B-6	Ⓢ		
D6504	D-5	Ⓢ	PP3001	A-6	Ⓢ	L605	D-6	Ⓢ	L3008	D-2	Ⓢ	L3208	B-7	Ⓢ	L6502	C-1	Ⓢ	X2001 X2002 X2003 X3001 X3003	B-3 C-5 A-6 D-3 C-4	Ⓢ Ⓢ Ⓢ Ⓢ Ⓢ	C604	D-4	Ⓢ	C615	C-3	Ⓢ	C626	C-4	Ⓢ	C640	D-3	Ⓢ	C651	C-2	Ⓢ	C665	D-6	Ⓢ	C2005	A-5	Ⓢ	C2016	A-4	Ⓢ	C2028	A-2	Ⓢ		
D6505	B-1	Ⓢ	PP3002	B-2	Ⓢ	L606	D-6	Ⓢ	L3009	D-4	Ⓢ	L3209	A-4	Ⓢ	LB3001	B-3	Ⓢ				C605	D-4	Ⓢ	C616	C-3	Ⓢ	C630	C-3	Ⓢ	C641	C-3	Ⓢ	C652	C-3	Ⓢ	C666	D-6	Ⓢ	C2006	B-5	Ⓢ	C2017	A-4	Ⓢ	C2029	A-2	Ⓢ		
D6506	B-1	Ⓢ	PS1001	B-7	Ⓢ	L607	C-7	Ⓢ	L3010	B-2	Ⓢ	L3801	C-5	Ⓢ	LB3002	D-1	Ⓢ				C606	D-4	Ⓢ	C617	D-3	Ⓢ	C631	D-4	Ⓢ	C642	D-3	Ⓢ	C653	C-3	Ⓢ	C667	C-5	Ⓢ	C2007	A-5	Ⓢ	C2018	A-5	Ⓢ	C2030	A-2	Ⓢ		
Connector			PS3001	C-2	Ⓢ	L2001	A-4	Ⓢ	L3011	B-2	Ⓢ	L3802	C-1	Ⓢ	LB3003	B-4	Ⓢ	Capacitor			C607	D-4	Ⓢ	C618	C-4	Ⓢ	C632	D-4	Ⓢ	C643	D-4	Ⓢ	C654	C-3	Ⓢ	C668	C-7	Ⓢ	C2008	B-7	Ⓢ	C2019	B-5	Ⓢ	C2031	B-4	Ⓢ		
FP3201	A-6	Ⓢ	JK3801	C-1	Ⓢ	L2002	B-5	Ⓢ	L3201	C-6	Ⓢ	L3803	C-1	Ⓢ	LB3004	D-1	Ⓢ	C601 C602	C-4 Ⓢ	Ⓢ Ⓢ Ⓢ	C608	D-3	Ⓢ	C619	D-3	Ⓢ	C633	D-5	Ⓢ	C644	D-2	Ⓢ	C655	C-3	Ⓢ	C669	D-7	Ⓢ	C2009	B-7	Ⓢ	C2020	B-5	Ⓢ	C2032	B-4	Ⓢ		
FP4001	B-1	Ⓢ	Coil			L2003	A-2	Ⓢ	L3202	A-3	Ⓢ	L3901	A-2	Ⓢ	LB3005	B-1	Ⓢ				C609	D-4	Ⓢ	C620	C-4	Ⓢ	C634	C-5	Ⓢ	C645	D-2	Ⓢ	C656	D-3	Ⓢ	C671	B-4	Ⓢ	C2010	A-5	Ⓢ	C2021	B-3	Ⓢ	C2033	B-3	Ⓢ		
FP6001	D-5	Ⓢ				L3002	D-3	Ⓢ	L3203	B-6	Ⓢ	L4001	B-1	Ⓢ	LB3006	B-6	Ⓢ				C610	D-3	Ⓢ	C621	C-4	Ⓢ	C635	D-3	Ⓢ	C646	C-2	Ⓢ	C657	C-3	Ⓢ	C672	D-1	Ⓢ	C2011	A-5	Ⓢ	C2023	B-4	Ⓢ	C2034	B-5	Ⓢ		
FP6002	A-7	Ⓢ	L601	C-5	Ⓢ	L3003	B-3	Ⓢ	L3204	B-3	Ⓢ	L4201	B-6	Ⓢ	LB3007	B-2	Ⓢ				C611	D-3	Ⓢ	C622	C-4	Ⓢ	C636	D-2	Ⓢ	C647	C-3	Ⓢ	C658	C-3	Ⓢ	C2001	B-4	Ⓢ	C2012	A-2	Ⓢ	C2024	A-3	Ⓢ	C2035	A-7	Ⓢ		
P3001	C-1	Ⓢ	L602	B-4	Ⓢ	L3004	C-5	Ⓢ	L3205	B-2	Ⓢ	L4202	B-2	Ⓢ							C612	C-4	Ⓢ	C623	D-4	Ⓢ	C637	D-2	Ⓢ	C648	C-3	Ⓢ	C662	C-4	Ⓢ	C2002	B-4	Ⓢ	C2013	B-6	Ⓢ	C2025	A-3	Ⓢ	C2036	A-6	Ⓢ		
						L3005	D-4	Ⓢ	L3206	B-3	Ⓢ	L4502	B-5	Ⓢ							C613	D-3	Ⓢ	C624	D-4	Ⓢ	C638	D-3	Ⓢ	C649	D-4	Ⓢ	C663	C-4	Ⓢ	C2003	B-4	Ⓢ	C2014	B-2	Ⓢ	C2026	B-6	Ⓢ	C2037	B-5	Ⓢ		

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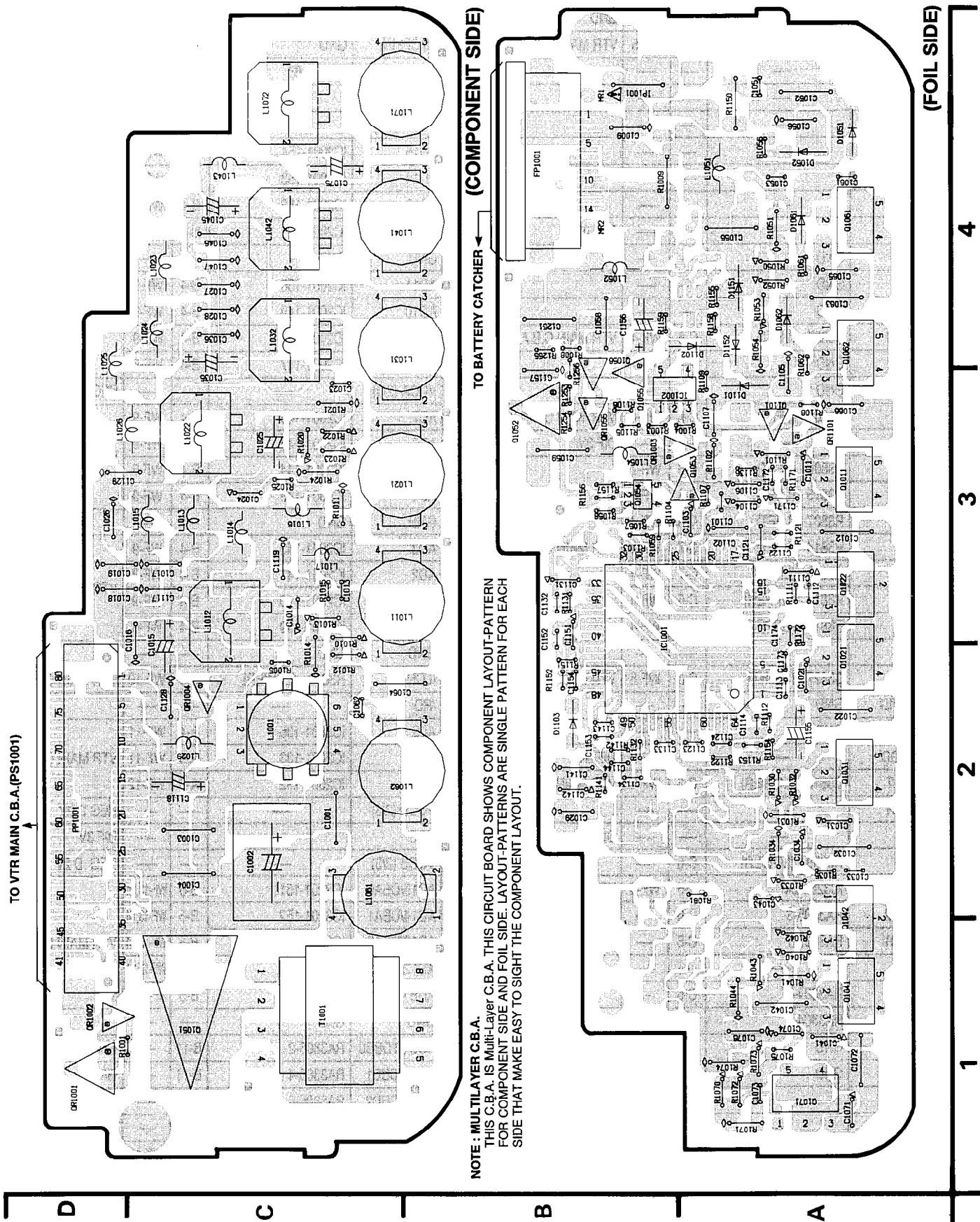


VTR MAIN C.B.A. (3)																																		
C2038	B-5	Ⓢ	C3203	C-6	Ⓢ	C4001	A-2	Ⓢ	R603	C-6	Ⓢ	R2014	B-3	Ⓢ	R2103	A-2	Ⓢ	R3056	D-6	Ⓢ	R3842	C-5	Ⓢ											
C2040	B-5	Ⓢ	C3204	C-6	Ⓢ	C4002	A-2	Ⓢ	R604	C-7	Ⓢ	R2015	A-5	Ⓢ	R2104	B-2	Ⓢ	R3057	B-2	Ⓢ	R3844	C-5	Ⓢ											
C2041	B-4	Ⓢ	C3205	C-6	Ⓢ	C4003	B-6	Ⓢ	R605	C-4	Ⓢ	R2016	A-5	Ⓢ	R2106	B-3	Ⓢ	R3058	B-2	Ⓢ	R3845	B-6	Ⓢ											
C2042	B-4	Ⓢ	C3206	C-6	Ⓢ	C4004	A-6	Ⓢ	R606	C-7	Ⓢ	R2017	B-5	Ⓢ	R2107	A-4	Ⓢ	R3059	B-2	Ⓢ	R4001	A-7	Ⓢ											
C2199	B-4	Ⓢ	C3207	C-6	Ⓢ	C4005	B-6	Ⓢ	R607	C-7	Ⓢ	R2018	A-5	Ⓢ	R2108	A-3	Ⓢ	R3060	C-5	Ⓢ	R4002	A-2	Ⓢ											
C3002	B-3	Ⓢ	C3208	B-6	Ⓢ	C4006	A-6	Ⓢ	R608	C-2	Ⓢ	R2019	A-5	Ⓢ	R2109	A-4	Ⓢ	R3061	B-2	Ⓢ	R4003	B-6	Ⓢ											
C3003	D-4	Ⓢ	C3209	A-5	Ⓢ	C4007	B-7	Ⓢ	R609	C-2	Ⓢ	R2020	B-5	Ⓢ	R2110	A-4	Ⓢ	R3062	B-4	Ⓢ	R4004	A-6	Ⓢ											
C3004	D-3	Ⓢ	C3210	A-3	Ⓢ	C4011	A-6	Ⓢ	R610	D-5	Ⓢ	R2021	B-5	Ⓢ	R2113	B-3	Ⓢ	R3075	D-4	Ⓢ	R4011	B-6	Ⓢ											
C3005	D-3	Ⓢ	C3211	A-3	Ⓢ	C4012	B-2	Ⓢ	R611	D-5	Ⓢ	R2022	B-5	Ⓢ	R2114	B-3	Ⓢ	R3076	D-5	Ⓢ	R4012	A-6	Ⓢ											
C3006	C-3	Ⓢ	C3212	A-3	Ⓢ	C4013	B-6	Ⓢ	R612	C-2	Ⓢ	R2023	A-3	Ⓢ	R2115	B-4	Ⓢ	R3078	D-5	Ⓢ	R4013	B-6	Ⓢ											
C3007	D-4	Ⓢ	C3213	A-3	Ⓢ	C4014	A-6	Ⓢ	R613	C-1	Ⓢ	R2024	A-2	Ⓢ	R2116	B-5	Ⓢ	R3079	D-4	Ⓢ	R4014	A-6	Ⓢ											
C3008	C-4	Ⓢ	C3214	B-3	Ⓢ	C4015	A-2	Ⓢ	R614	C-5	Ⓢ	R2025	A-2	Ⓢ	R2117	B-3	Ⓢ	R3083	C-2	Ⓢ	R4015	A-2	Ⓢ											
C3009	C-4	Ⓢ	C3215	A-3	Ⓢ	C4016	A-2	Ⓢ	R615	C-4	Ⓢ	R2026	A-2	Ⓢ	R2118	A-3	Ⓢ	R3085	B-2	Ⓢ	R4016	A-2	Ⓢ											
C3010	B-2	Ⓢ	C3216	B-3	Ⓢ	C4201	A-6	Ⓢ	R616	D-4	Ⓢ	R2027	A-4	Ⓢ	R2119	C-4	Ⓢ	R3086	C-4	Ⓢ	R4017	A-2	Ⓢ											
C3011	C-2	Ⓢ	C3217	B-3	Ⓢ	C4202	B-6	Ⓢ	R617	C-3	Ⓢ	R2028	A-4	Ⓢ	R2121	A-5	Ⓢ	R3090	D-3	Ⓢ	R4018	A-2	Ⓢ											
C3012	B-2	Ⓢ	C3218	B-3	Ⓢ	C4203	B-6	Ⓢ	R619	D-4	Ⓢ	R2029	A-5	Ⓢ	R2122	B-5	Ⓢ	R3091	D-3	Ⓢ	R4021	B-1	Ⓢ											
C3013	C-2	Ⓢ	C3219	B-3	Ⓢ	C4204	B-6	Ⓢ	R621	D-4	Ⓢ	R2031	B-4	Ⓢ	R2123	A-5	Ⓢ	R3094	D-5	Ⓢ	R4022	A-7	Ⓢ											
C3015	D-5	Ⓢ	C3220	B-3	Ⓢ	C4205	B-6	Ⓢ	R622	D-4	Ⓢ	R2033	B-5	Ⓢ	R2124	A-5	Ⓢ	R3203	B-3	Ⓢ	R4201	A-6	Ⓢ											
C3016	C-3	Ⓢ	C3221	B-3	Ⓢ	C4206	B-6	Ⓢ	R623	D-4	Ⓢ	R2034	A-4	Ⓢ	R2125	A-5	Ⓢ	R3204	B-5	Ⓢ	R4202	A-6	Ⓢ											
C3017	C-4	Ⓢ	C3222	B-3	Ⓢ	C4207	B-5	Ⓢ	R624	D-4	Ⓢ	R2035	B-6	Ⓢ	R2126	A-5	Ⓢ	R3205	B-2	Ⓢ	R4203	A-6	Ⓢ											
C3018	D-5	Ⓢ	C3223	B-3	Ⓢ	C4208	B-5	Ⓢ	R625	D-4	Ⓢ	R2036	A-6	Ⓢ	R2127	A-3	Ⓢ	R3206	B-3	Ⓢ	R4204	A-6	Ⓢ											
C3019	B-3	Ⓢ	C3224	B-6	Ⓢ	C4209	B-5	Ⓢ	R626	D-4	Ⓢ	R2037	A-4	Ⓢ	R2128	A-3	Ⓢ	R3207	B-2	Ⓢ	R4205	A-6	Ⓢ											
C3020	D-3	Ⓢ	C3225	B-2	Ⓢ	C4210	B-5	Ⓢ	R629	D-4	Ⓢ	R2038	B-6	Ⓢ	R2129	B-4	Ⓢ	R3208	B-2	Ⓢ	R4211	B-6	Ⓢ											
C3021	D-5	Ⓢ	C3226	B-3	Ⓢ	C4211	B-5	Ⓢ	R631	D-4	Ⓢ	R2039	B-6	Ⓢ	R2130	B-5	Ⓢ	R3209	A-2	Ⓢ	R4501	C-4	Ⓢ											
C3022	D-5	Ⓢ	C3227	B-2	Ⓢ	C4212	B-4	Ⓢ	R634	C-4	Ⓢ	R2040	B-2	Ⓢ	R2133	B-5	Ⓢ	R3210	A-2	Ⓢ	R4502	B-3	Ⓢ											
C3023	D-4	Ⓢ	C3228	B-2	Ⓢ	C4213	B-2	Ⓢ	R635	D-4	Ⓢ	R2041	B-4	Ⓢ	R2134	B-5	Ⓢ	R3211	A-2	Ⓢ	R4503	B-3	Ⓢ											
C3024	D-6	Ⓢ	C3229	A-2	Ⓢ	C4214	B-5	Ⓢ	R636	D-4	Ⓢ	R2042	B-2	Ⓢ	R2135	D-7	Ⓢ	R3212	A-3	Ⓢ	R4504	B-4	Ⓢ											
C3026	C-2	Ⓢ	C3230	A-2	Ⓢ	C4215	B-5	Ⓢ	R637	D-4	Ⓢ	R2043	A-3	Ⓢ	R2136	D-6	Ⓢ	R3213	C-5	Ⓢ	R4506	B-3	Ⓢ											
C3027	D-3	Ⓢ	C3231	A-2	Ⓢ	C4218	A-5	Ⓢ	R638	C-3	Ⓢ	R2044	B-6	Ⓢ	R2137	D-6	Ⓢ	R3214	C-5	Ⓢ	R4507	B-4	Ⓢ											
C3028	D-5	Ⓢ	C3232	A-2	Ⓢ	C4219	B-5	Ⓢ	R639	D-4	Ⓢ	R2045	B-6	Ⓢ	R2138	B-5	Ⓢ	R3215	A-4	Ⓢ	R4701	A-7	Ⓢ											
C3030	D-5	Ⓢ	C3233	A-3	Ⓢ	C4501	C-4	Ⓢ	R640	C-5	Ⓢ	R2046	A-2	Ⓢ	R2139	B-2	Ⓢ	R3217	A-3	Ⓢ	R4702	A-7	Ⓢ											
C3035	D-5	Ⓢ	C3234	A-2	Ⓢ	C4502	C-3	Ⓢ	R642	C-4	Ⓢ	R2047	B-4	Ⓢ	R2140	B-2	Ⓢ	R3218	A-3	Ⓢ	R4704	A-7	Ⓢ											
C3036	D-4	Ⓢ	C3235	A-3	Ⓢ	C4503	C-3	Ⓢ	R644	C-4	Ⓢ	R2048	B-5	Ⓢ	R2141	B-5	Ⓢ	R3219	B-3	Ⓢ	R4705	A-7	Ⓢ											
C3037	D-4	Ⓢ	C3236	A-3	Ⓢ	C4504	C-3	Ⓢ	R645	D-4	Ⓢ	R2049	A-5	Ⓢ	R2142	B-6	Ⓢ	R3220	A-2	Ⓢ	R4707	A-1	Ⓢ											
C3038	D-5	Ⓢ	C3237	A-3	Ⓢ	C4505	C-3	Ⓢ	R646	D-4	Ⓢ	R2050	B-4	Ⓢ	R2143	B-1	Ⓢ	R3221	A-2	Ⓢ	R4708	A-1	Ⓢ											
C3039	D-4	Ⓢ	C3238	A-5	Ⓢ	C4506	C-3	Ⓢ	R647	D-4	Ⓢ	R2052	A-5	Ⓢ	R2199	B-4	Ⓢ	R3222	C-6	Ⓢ	R4709	A-1	Ⓢ											
C3040	D-3	Ⓢ	C3239	B-3	Ⓢ	C4507	C-3	Ⓢ	R648	C-4	Ⓢ	R2053	A-5	Ⓢ	R3001	D-3	Ⓢ	R3223	C-5	Ⓢ	R4710	A-1	Ⓢ											
C3041	D-3	Ⓢ	C3240	B-3	Ⓢ	C4508	C-3	Ⓢ	R649	C-4	Ⓢ	R2054	B-2	Ⓢ	R3002	D-2	Ⓢ	R3224	B-3	Ⓢ	R4711	A-1	Ⓢ											
C3042	D-5	Ⓢ	C3241	B-3	Ⓢ	C4509	B-4	Ⓢ	R650	C-4	Ⓢ	R2055	B-3	Ⓢ	R3003	D-5	Ⓢ	R3225	A-5	Ⓢ	R4712	A-1	Ⓢ											
C3043	C-5	Ⓢ	C3242	B-3	Ⓢ	C4510	B-4	Ⓢ	R651	C-3	Ⓢ	R2056	B-4	Ⓢ	R3004	D-5	Ⓢ	R3226	B-3	Ⓢ	R4798	A-1	Ⓢ											
C3044	C-5	Ⓢ	C3243	C-3	Ⓢ	C4511	B-3	Ⓢ	R652	C-3	Ⓢ	R2057	B-2	Ⓢ	R3005	B-1	Ⓢ	R3227	A-2	Ⓢ	R4799	A-2	Ⓢ											
C3045	C-3	Ⓢ	C3244	B-3	Ⓢ	C4512	C-3	Ⓢ	R653	C-3	Ⓢ	R2058	A-2	Ⓢ	R3006	D-4	Ⓢ	R3228	C-6	Ⓢ	R6503	C-7	Ⓢ											
C3046	C-5	Ⓢ	C3245	A-2	Ⓢ	C4513	B-5	Ⓢ	R656	D-3	Ⓢ	R2059	A-5	Ⓢ	R3008	D-5	Ⓢ	R3229	B-7	Ⓢ	R6504	A-2	Ⓢ											
C3047	C-5	Ⓢ	C3246	B-2	Ⓢ	C4514	B-4	Ⓢ	R657	C-4	Ⓢ	R2060	A-2	Ⓢ	R3009	D-5	Ⓢ	R3230	B-2	Ⓢ	R6505	B-6	Ⓢ											
C3048	C-3	Ⓢ	C3247	A-3	Ⓢ	C4515	B-4	Ⓢ	R658	D-3	Ⓢ	R2061	A-3	Ⓢ	R3010	D-5	Ⓢ	R3231	A-5	Ⓢ	R6506	A-6	Ⓢ											
C3050	C-3	Ⓢ	C3248	A-3	Ⓢ	C4701	A-1	Ⓢ	R659	C-2	Ⓢ	R2062	A-2	Ⓢ	R3011	D-5	Ⓢ	R3232	A-3	Ⓢ	R6510	A-5	Ⓢ											
C3051	C-3	Ⓢ	C3249	B-3	Ⓢ	C4702	A-1	Ⓢ	R661	D-3	Ⓢ	R2063	A-3	Ⓢ	R3012	D-5	Ⓢ	R3233	B-3	Ⓢ	R6515	A-6	Ⓢ											
C3053	C-3	Ⓢ	C3250	B-5	Ⓢ	C4704	A-7	Ⓢ	R663	D-3	Ⓢ	R2064	A-3	Ⓢ	R3013	D-5	Ⓢ	R3234	A-2	Ⓢ														
C3054	C-3	Ⓢ	C3251	B-3	Ⓢ	C4705	A-2	Ⓢ	R664	D-2	Ⓢ	R2065	A-3	Ⓢ	R3014	C-3	Ⓢ	R3235	A-4	Ⓢ														
C3055	C-3	Ⓢ	C3252	B-3	Ⓢ	C4706	A-2	Ⓢ	R665	D-2	Ⓢ	R2066	A-5	Ⓢ	R3016	D-3	Ⓢ	R3236	A-4	Ⓢ														
C3056	D-5	Ⓢ	C3253	B-3	Ⓢ	C4798	A-2	Ⓢ	R666	D-2																								

CSP IC3801		CHECK POINT		WF No.	REMARKS
PIN	NAME				
49	PC1	RA3803-1	B-12	—	GND
50	PC2	R3804 - (LOWER)	B-6	WF-5	VTR MAIN C.B.A. (F)
51	LREQ	—	—	—	
52	CTL0	—	—	—	
53	CTL1	—	—	—	
54	D0	—	—	—	
55	D1	—	—	—	
56	SYSCLK	—	—	—	
57	D VCC	—	—	—	DIF 3V
58	D GND	GND	—	—	
59	A GND	GND	—	—	
60	A GND	GND	—	—	
61	TP BIAS	C3807 - (LEFT)	C-6	WF-4	VTR MAIN C.B.A. (F)
62	A GND	GND	—	—	
63	A GND	GND	—	—	
64	A VCC	C3809 - (LEFT)	C-6	WF-4	VTR MAIN C.B.A. (F)
65	A VCC	—	—	—	DIF 3V
66	CPS	R3806 - (LEFT)	C-6	WF-7	VTR MAIN C.B.A. (F)
67	R1	R3815 - (LEFT)	C-6	WF-4	
68	R0	R3807 - (LEFT)	C-6	WF-4	
69	TPB-	R3814 - (LEFT)	C-7	WF-4	
70	TPB+	R3813 - (LEFT)	C-7	WF-4	
71	TPA-	R3812 - (UPPER)	C-6	WF-4	
72	TPA+	R3811 - (UPPER)	C-6	WF-4	
73	XO	—	—	—	
74	XI	C3827 - (RIGHT)	C-5	WF-8	VTR MAIN C.B.A. (F)
75	PLL GND	GND	—	—	
76	PLL GND	GND	—	—	
77	PLL VDD	—	—	—	DIF 3V
78	PLL FLT	C3813 - (LOWER)	C-6	WF-4	VTR MAIN C.B.A. (F)
79	PWRDN	—	—	—	
80	AVCC	—	—	—	DIF 3V
81	/ISO	R3809 - (LOWER)	C-6	—	
82	/RESET	IC3201-84	C-5	WF-4	VTR MAIN C.B.A. (C)
83	TESTM2	RA3805-3	C-6	—	
84	TESTM1	RA3805-1	C-6	—	
85	CNA	—	—	—	
86	LPS	RA3804-3	C-6	—	
87	C/LKON	RA3804-1	C-6	—	
88	DVSS	GND	—	—	
89	GND	GND	—	—	
90	VCC	—	—	—	DIF 3V
91	LPWRDN	—	—	—	
92	LCNA	—	—	—	
93	RAMEZ	GND	—	—	
94	NTCLK	GND	—	—	
95	GND	GND	—	—	
96	NTOUT	—	—	—	

CSP IC3801		CHECK POINT		WF No.	REMARKS
PIN	NAME				
97	NTZIHZ	GND	—	—	
98	CYCLEIN	GND	—	—	
99	/INTP	IC2001-88	A-3	WF-4	VTR MAIN C.B.A. (C)
100	VCC	—	—	—	DIF 3V
101	VCCA (2/3)	—	—	—	REG D2V
102	AD15	IC2001-154	B-4	WF-9	VTR MAIN C.B.A. (C)
103	AD14	IC2001-153	B-4	WF-9	
104	AD13	IC2001-152	B-4	WF-9	
105	AD12	IC2001-151	B-4	WF-9	
106	GND	GND	—	—	
107	AD11	IC2001-150	B-4	WF-9	VTR MAIN C.B.A. (C)
108	AD10	IC2001-149	B-4	WF-9	
109	AD9	IC2001-148	B-4	WF-9	
110	AD8	IC2001-147	B-4	WF-9	
111	VCCA (2/3)	—	—	—	REG D 2V
112	AD7	IC2001-146	B-4	WF-9	VTR MAIN C.B.A. (C)
113	AD6	IC2001-145	B-4	WF-9	
114	AD5	IC2001-144	B-4	WF-9	
115	AD4	IC2001-143	B-4	WF-9	
116	GND	GND	—	—	
117	AD3	IC2001-142	B-4	WF-9	VTR MAIN C.B.A. (C)
118	AD2	IC2001-141	B-4	WF-9	
119	AD1	IC2001-140	B-4	WF-9	
120	AD0	IC2001-139	B-4	WF-9	
121	GND	GND	—	—	
122	/LCNTD	R3842 - (LOWER)	C-5	WF-10	VTR MAIN C.B.A. (F)
123	/RD	—	—	—	
124	ALE	IC2001-135	A-4	WF-11	VTR MAIN C.B.A. (C)
125	/DC	IC2001-133	A-4	WF-11	
126	BCLK	IC2001-132	A-4	WF-12	
127	VCCB (2/3)	—	—	—	REG D 2V
128	VCC	—	—	—	DIF 3V
129	VCCB (2/3)	—	—	—	REG D 2V
130	AD15/DBA0	IC3201-151	B-5	WF-13,14	VTR MAIN C.B.A. (C)
131	AD14/DBA1	IC3201-152	B-5	WF-13,14	
132	AD13/DBA2	IC3201-153	B-5	WF-13,14	
133	AD12/DBA3	IC3201-154	B-5	WF-13,14	
134	ADB11/SMPA	IC3201-155	B-5	WF-13,14	
135	GND	GND	—	—	
136	ADB10/DBB0	RA3806-2	B-11	—	GND
137	ADB9/DBB1	RA3806-4	B-11	—	GND
138	ADB8/DBB2	RA3806-6	B-11	—	GND
139	ADB7/DBB3	RA3806-8	B-11	—	GND
140	ADB6/SMPB	R3834 - (RIGHT)	B-5	WF-15	VTR MAIN C.B.A. (F)
141	VCCB (2/3)	—	—	—	REG D 2V
142	CLK18	IC3201-3	B-6	WF-16	VTR MAIN C.B.A. (C)
143	VCC	—	—	—	DIF 3V
144	SSP	IC3201-148	B-5	WF-4	VTR MAIN C.B.A. (C)

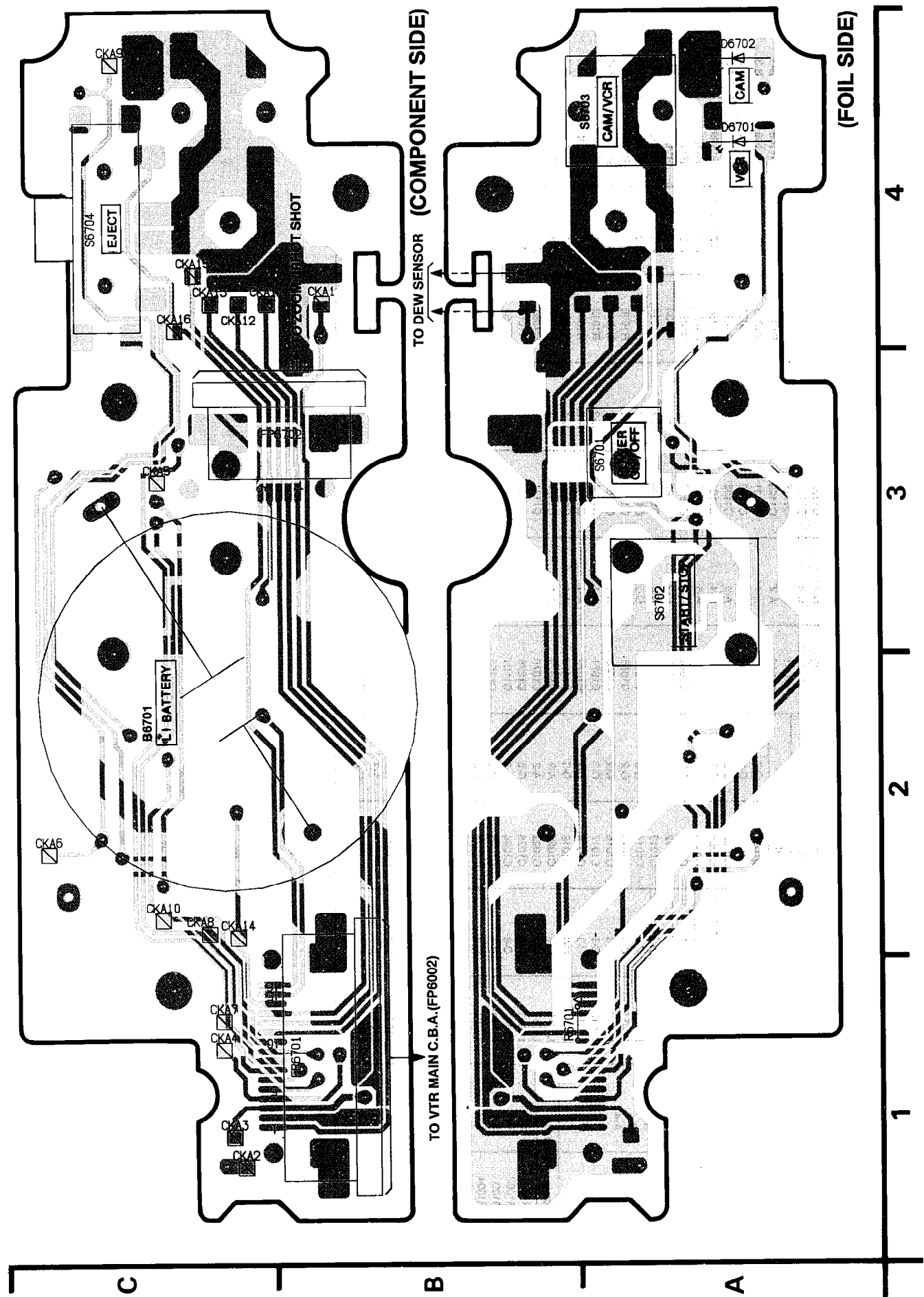
3-39. POWER C.B.A. (VEP01801C)



POWER C.B.A.									
Integrated Circuit		D1102		A-4		L1052		C1041	
IC1001	B-3	D1103	B-2	D1151	A-4	L1054	B-3	C1042	A-1
IC1002	B-3	D1152	A-4			L1061	C-2	C1043	A-2
Transistor		Connector							
		Capacitor							
Q1011	A-3	FP1001	B-4			C1001	C-2	C1118	C-2
Q1021	A-2	PP1001	D-2			C1002	C-2	C1119	C-3
Q1022	A-3					C1003	C-2	C1121	A-3
Q1031	A-2					C1004	C-2	C1122	A-3
Q1041	A-1	IP1001	B-4			C1009	B-4	C1124	A-2
Q1042	A-1	Transformer				C1011	A-3	C1128	A-2
Q1051	C-1					C1012	A-3	C1131	C-2
Q1052	B-3	T1001	C-1			C1013	C-3	C1132	B-3
Q1053	A-3	Coil				C1014	C-3	C1133	B-2
Q1054	B-3					C1015	C-2	C1134	B-2
Q1055	B-3	L1001	C-2			C1016	C-2	C1141	B-2
Q1056	B-4	L1011	C-3			C1017	C-3	C1142	A-2
Q1061	A-4	L1012	C-3			C1018	D-3	C1143	B-2
Q1062	A-4	L1013	C-3			C1019	D-3	C1144	B-2
Q1071	A-1	L1014	C-3			C1021	A-2	C1151	B-3
Q1101	A-3	L1015	C-3			C1022	A-2	C1152	B-3
Transistor & Resistor		L1016	C-3			C1023	C-3	C1153	B-2
		L1017	C-3			C1024	C-3	C1154	A-1
QR1001	D-1	L1021	C-3			C1025	C-3	C1155	A-1
QR1002	D-1	L1022	C-3			C1026	D-3	C1156	A-1
QR1003	B-3	L1023	C-4			C1027	C-4	C1157	B-3
QR1004	C-2	L1024	D-4			C1028	C-4	C1171	A-3
QR1055	B-3	L1025	D-4			C1029	B-2	C1172	A-3
QR1101	A-3	L1026	C-3			C1031	A-2	C1173	A-2
Diode		L1031	C-4			C1032	A-2	C1174	A-3
		L1032	C-4			C1033	A-2	C1251	B-4
D1051	A-4	L1041	C-4			C1034	A-2	Resistor	
D1052	A-4	L1042	C-4			C1035	C-3		
D1061	A-4	L1043	C-4			C1036	C-4	R1001	D-1
D1062	A-4	L1051	A-4					R1003	B-3
D1101	A-3							R1004	B-3

ADDRESS INFORMATION

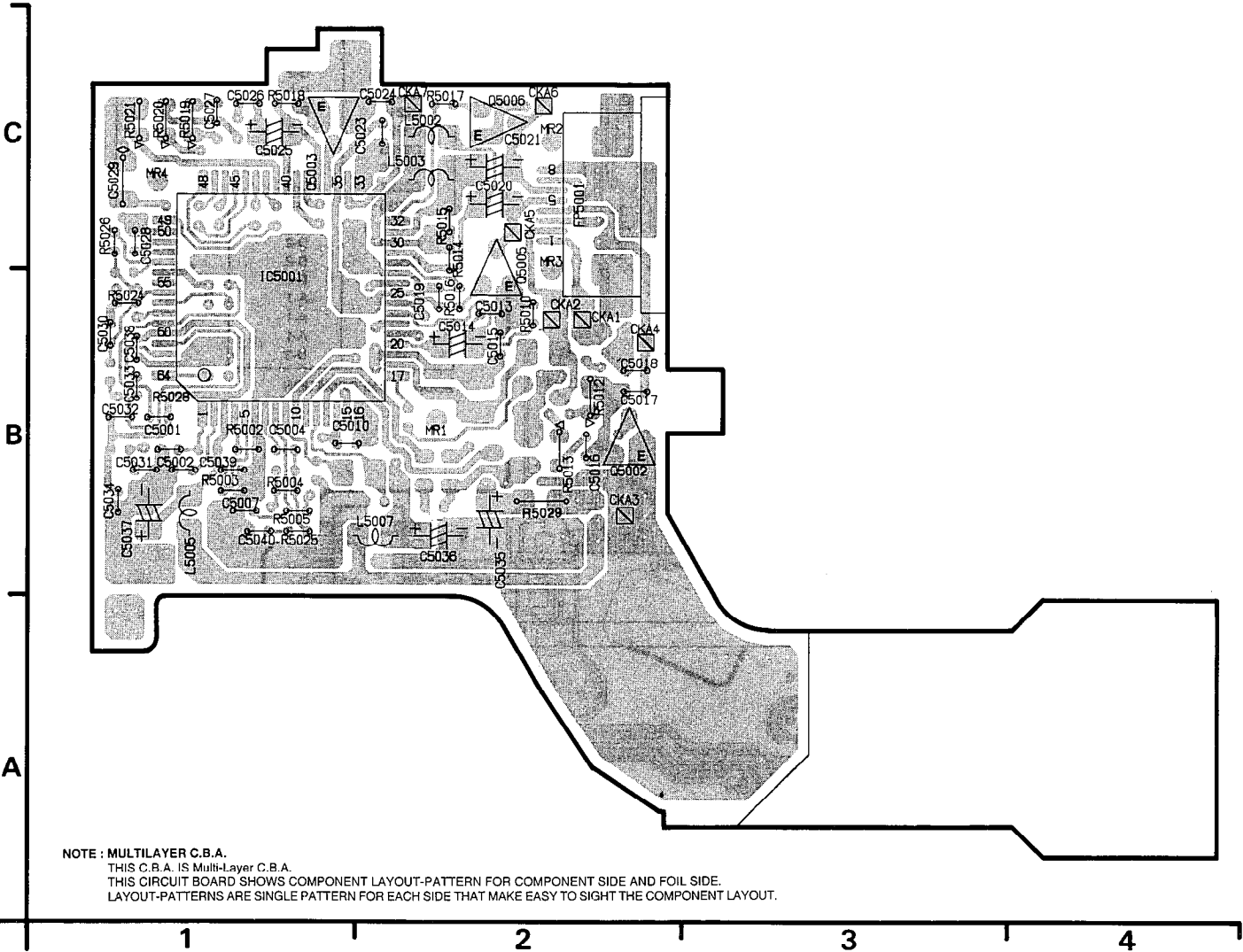
3-40. REAR OPERATION C.B.A. (VEP06C37A)



3-41. HEAD AMP C.B.A. (VEP05352A)

HEAD/REC AMP C.B.A.									
Integrated Circuit		L5003	C-2	C5018	B-2	C5034	B-1	R5013	B-2
IC5001	B-1	L5005	B-1	C5019	B-2	C5035	B-2	R5014	C-2
		L5007	B-2	C5020	C-2	C5036	B-2	R5015	C-2
Transistor		Capacitor		C5021	C-2	C5037	B-1	R5016	B-2
Q5002	B-2	C5001	B-1	C5023	C-2	C5038	B-1	R5017	C-2
Q5003	C-1	C5002	B-1	C5024	C-2	C5039	B-1	R5018	C-1
Q5005	B-2	C5004	B-1	C5025	C-1	C5040	B-1	R5019	C-1
Q5006	C-2	C5007	B-1	C5026	C-1	Resistor		R5020	C-1
Connector		C5010	B-1	C5027	C-1	R5002	B-1	R5021	C-1
FP5001	C-2	C5013	B-2	C5028	C-1	R5003	B-1	R5024	B-1
Coil		C5014	B-2	C5029	C-1	R5004	B-1	R5025	B-1
L5002	C-2	C5015	B-2	C5030	B-1	R5005	B-1	R5026	C-1
		C5016	B-2	C5031	B-1	R5010	B-2	R5028	B-1
		C5017	B-2	C5032	B-1	R5012	B-2	R5029	B-2
				C5033	B-1				

ADDRESS INFORMATION



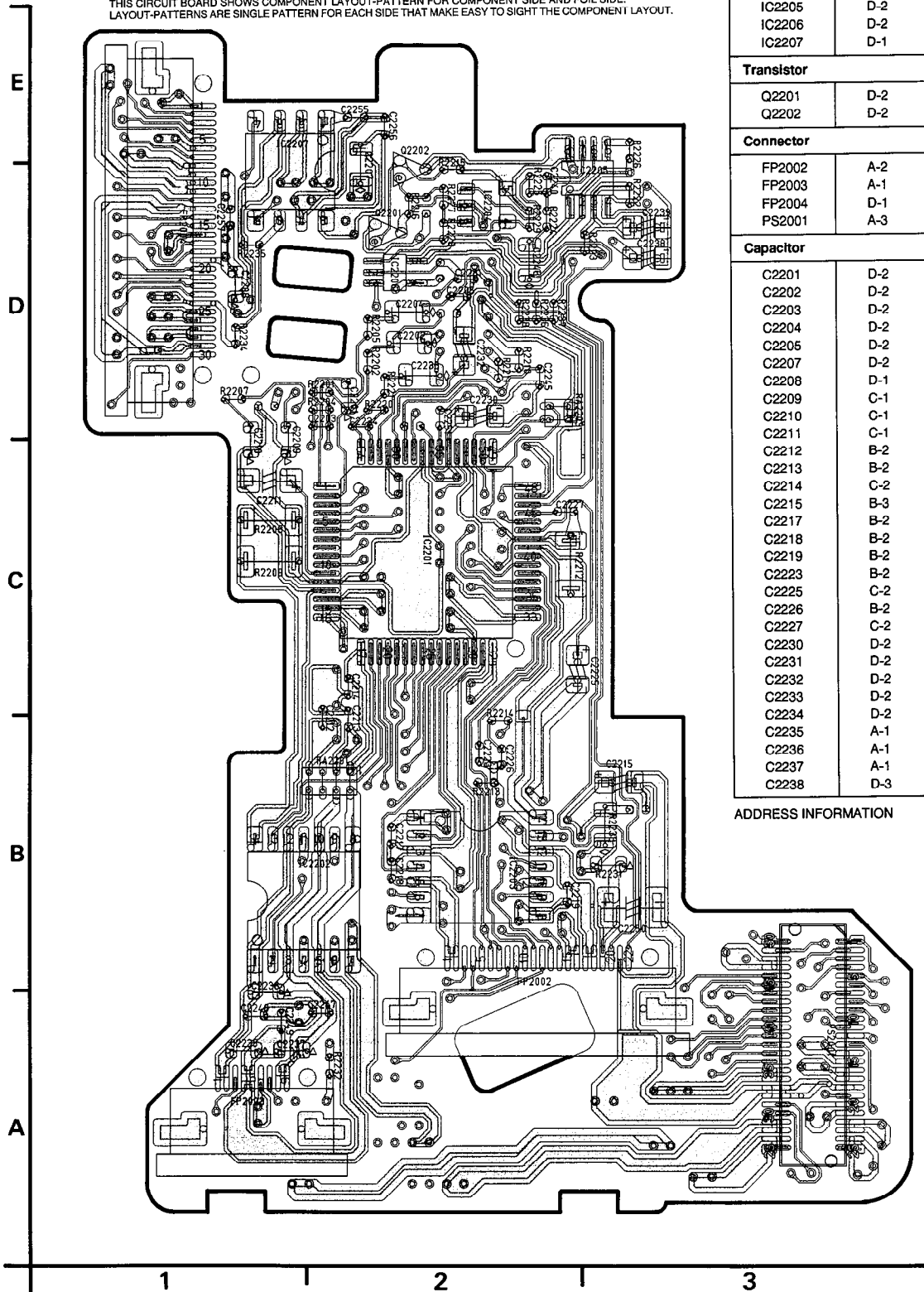
3-42. DRIVE C.B.A. (VEP02561A)

NOTE : MULTILAYER C.B.A.

THIS C.B.A. IS Multi-Layer C.B.A.

THIS CIRCUIT BOARD SHOWS COMPONENT LAYOUT-PATTERN FOR COMPONENT SIDE AND FOIL SIDE.

LAYOUT-PATTERNS ARE SINGLE PATTERN FOR EACH SIDE THAT MAKE EASY TO SIGHT THE COMPONENT LAYOUT.

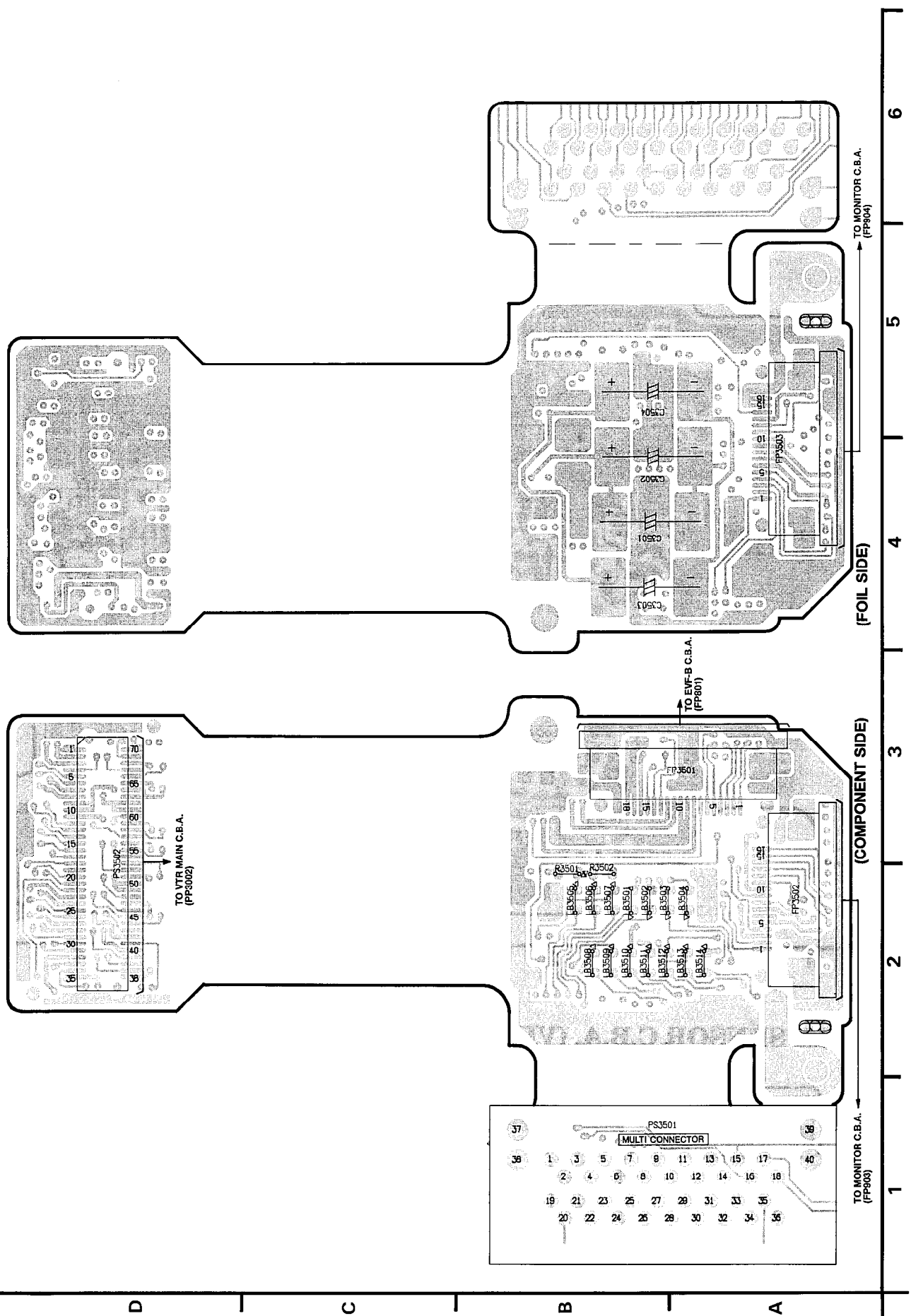


DRIVE C.B.A.			
Integrated Circuit			
IC2201	C-2	C2239	D-3
IC2202	B-1	C2240	D-2
IC2203	B-2	C2245	D-2
IC2204	D-2	C2246	D-2
IC2205	D-2	C2247	A-2
IC2206	D-2	C2248	A-1
IC2207	D-1	C2249	A-1
Transistor		C2250	B-3
Q2201	D-2	C2251	D-2
Q2202	D-2	C2255	E-2
Connector		C2256	E-2
FP2002	A-2	C2257	D-1
FP2003	A-1	Resistor	
FP2004	D-1	R2201	D-2
PS2001	A-3	R2202	D-2
Capacitor		R2204	D-2
C2201	D-2	R2205	D-2
C2202	D-2	R2207	D-1
C2203	D-2	R2208	C-1
C2204	D-2	R2209	C-1
C2205	D-2	R2210	D-2
C2207	D-2	R2211	D-2
C2208	D-1	R2212	C-2
C2209	C-1	R2213	B-2
C2210	C-1	R2214	B-2
C2211	C-1	R2215	D-2
C2212	B-2	R2216	D-2
C2213	B-2	R2220	D-2
C2214	C-2	R2221	D-2
C2215	B-3	R2222	D-3
C2217	B-2	R2223	D-2
C2218	B-2	R2224	D-2
C2219	B-2	R2225	D-2
C2223	B-2	R2226	E-3
C2225	C-2	R2227	D-2
C2226	B-2	R2228	D-2
C2227	C-2	R2229	D-2
C2230	D-2	R2231	B-3
C2231	D-2	R2232	A-2
C2232	D-2	R2233	B-3
C2233	D-2	R2234	D-1
C2234	D-2	R2235	D-1
C2235	A-1	R2236	D-2
C2236	A-1	R2237	D-2
C2237	A-1	R2238	D-2
C2238	D-3	Resistor Array	
		RA2201	B-2
		RA2203	D-2

ADDRESS INFORMATION

3-43. LCD I/F C.B.A. (VEP00Y65A)

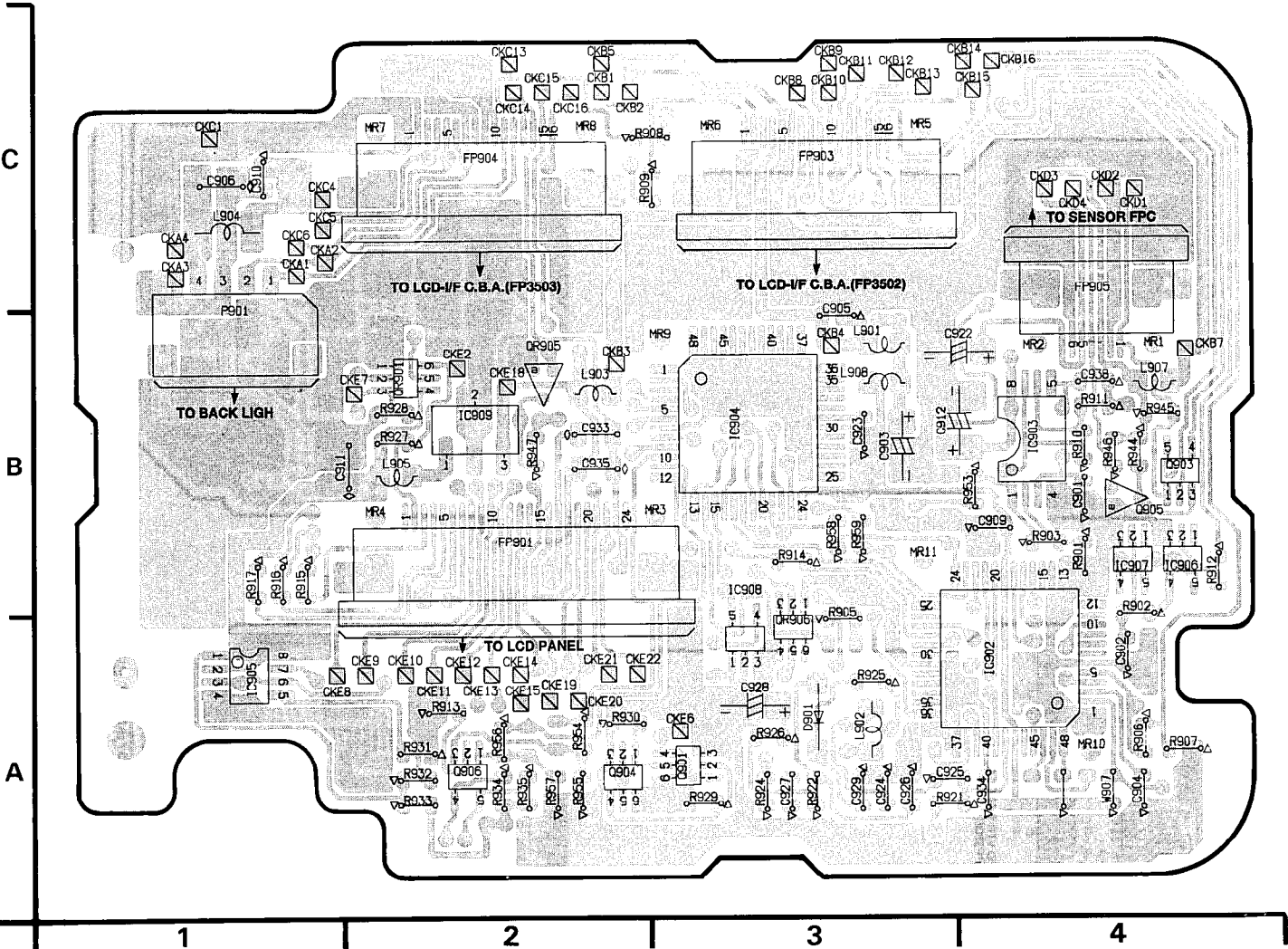
NOTE: MULTILAYER C.B.A.
THIS C.B.A. IS Multi-Layer C.B.A. THIS CIRCUIT BOARD SHOWS COMPONENT LAYOUT-PATTERN FOR COMPONENT SIDE AND FOIL SIDE. LAYOUT-PATTERNS ARE SINGLE PATTERN FOR EACH SIDE THAT MAKE EASY TO SIGHT THE COMPONENT LAYOUT.



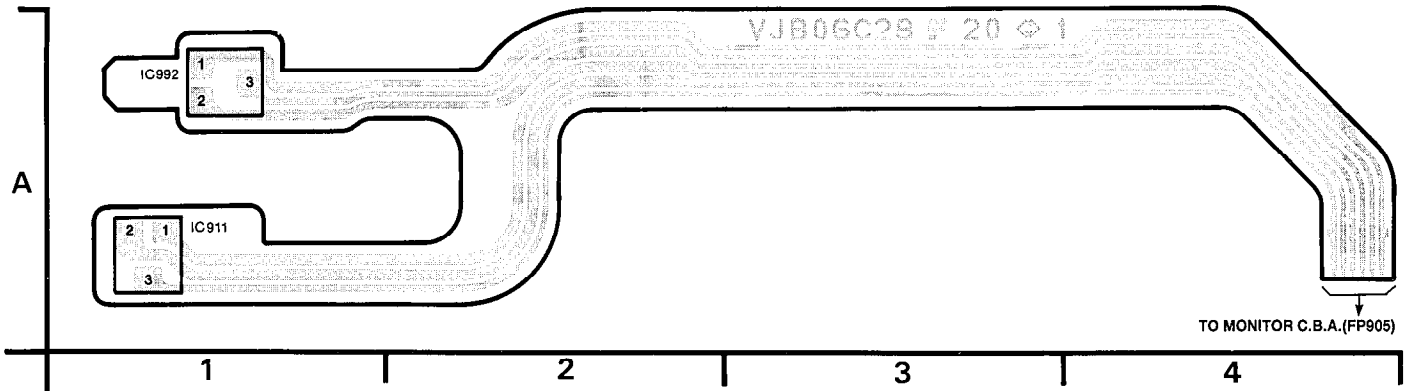
3-44. MONITOR C.B.A. (VEP26195B)

MONITOR C.B.A.				
Integrated Circuit		Q905		B-4
		Q906		A-2
IC902	A-4	Transistor & Resistor		
IC903	B-4			
IC904	B-3	QR901		B-2
IC905	A-1	QR905		B-2
IC906	B-4	QR906		A-3
IC907	B-4	Connector		
IC908	B-3			
IC909	B-2			
Transistor				
Q901	A-3	FP901		B-2
Q903	B-4	FP903		C-3
Q904	A-2	FP904		C-2
		FP905		C-4
		P901		B-1

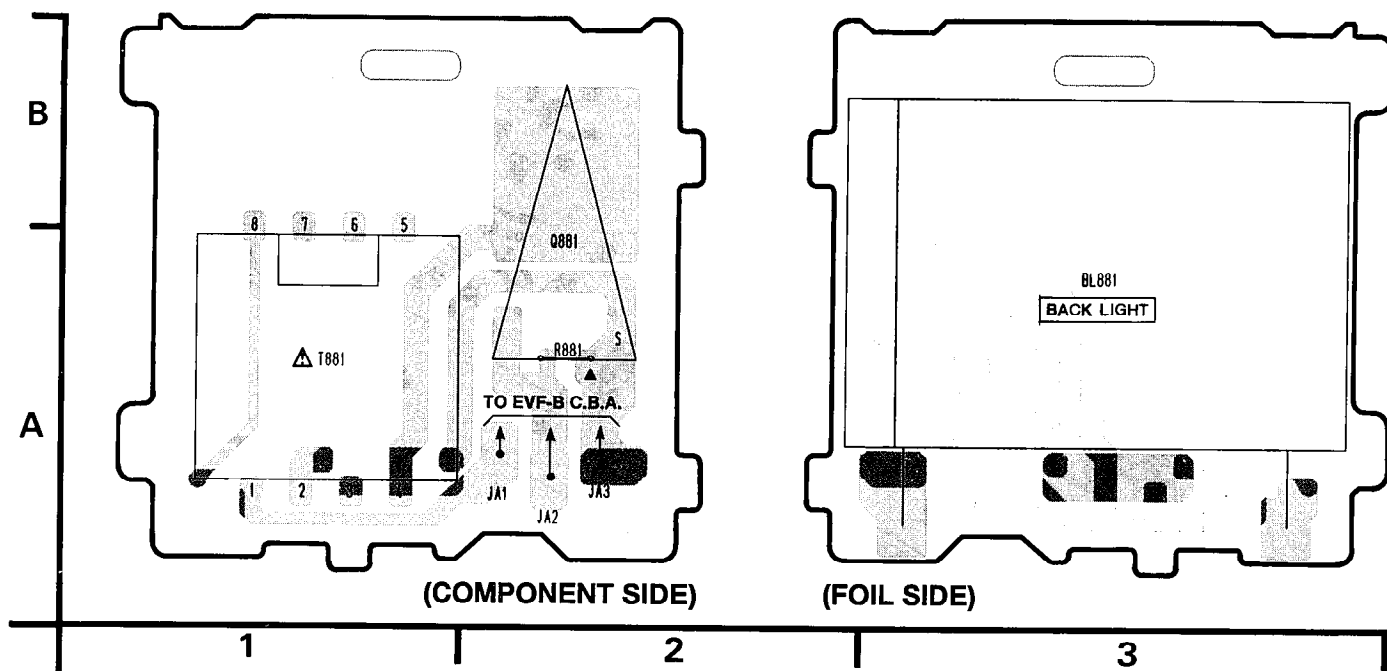
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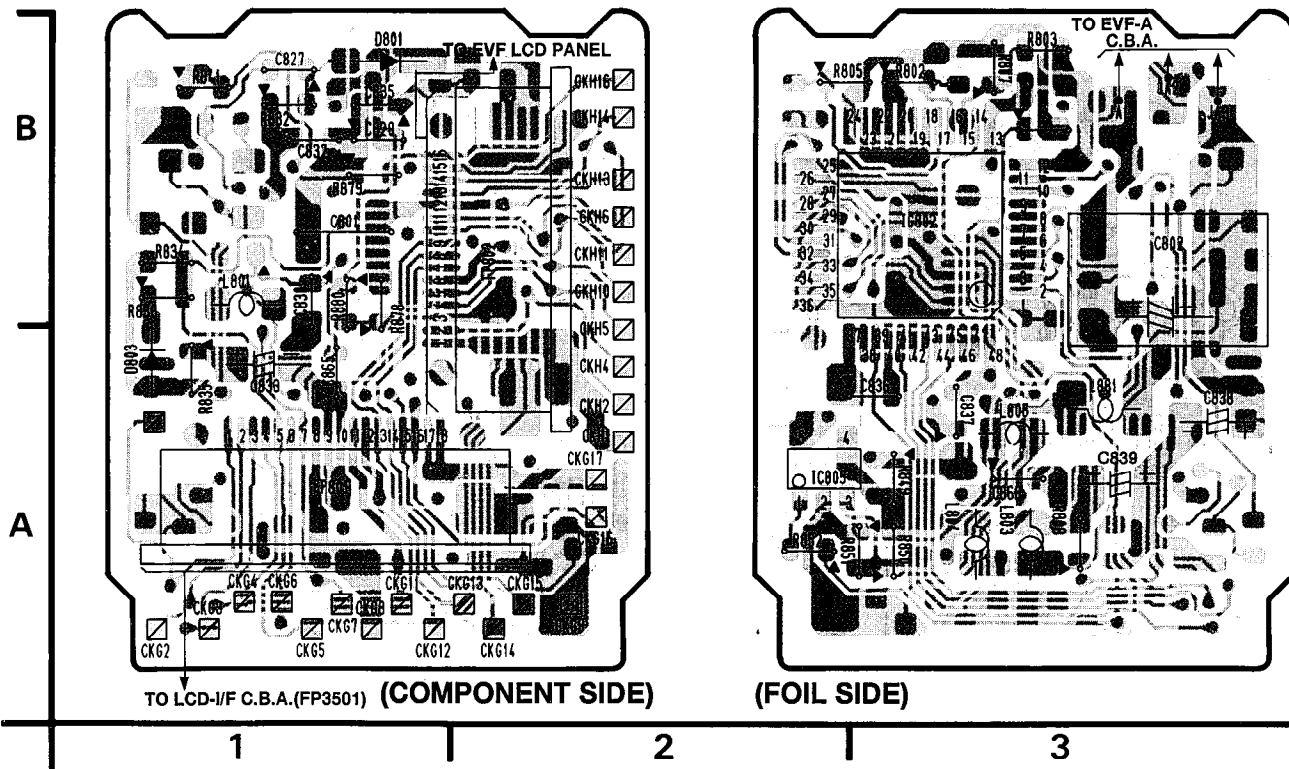
3-45. HALL SENSOR C.B.A. (VEP06C28A)



3-46. E.V.F. (A) C.B.A. (VEP28240D)



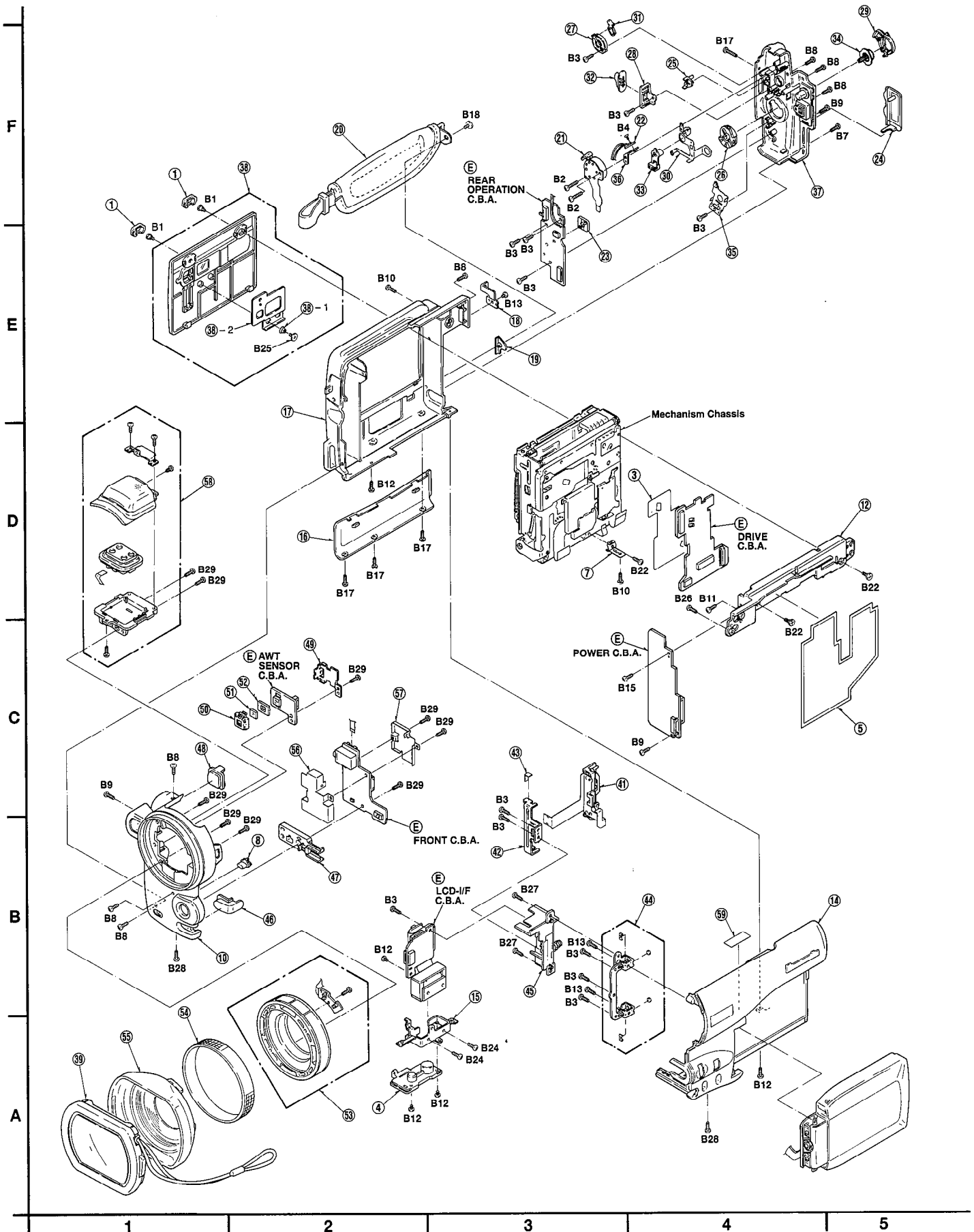
3-47. E.V.F. (B) C.B.A. (VEP28244B)



SECTION 4 EXPLODED VIEWS & PARTS LIST

4-1. EXPLODED VIEWS & MECHANICAL REPLACEMENT PARTS LIST


① FRAME & CASING PARTS SECTION (1)



1. FRAME & CASING PARTS SECTION (1)

Note: 1. * Be sure to make your orders of replacement parts according to this list.

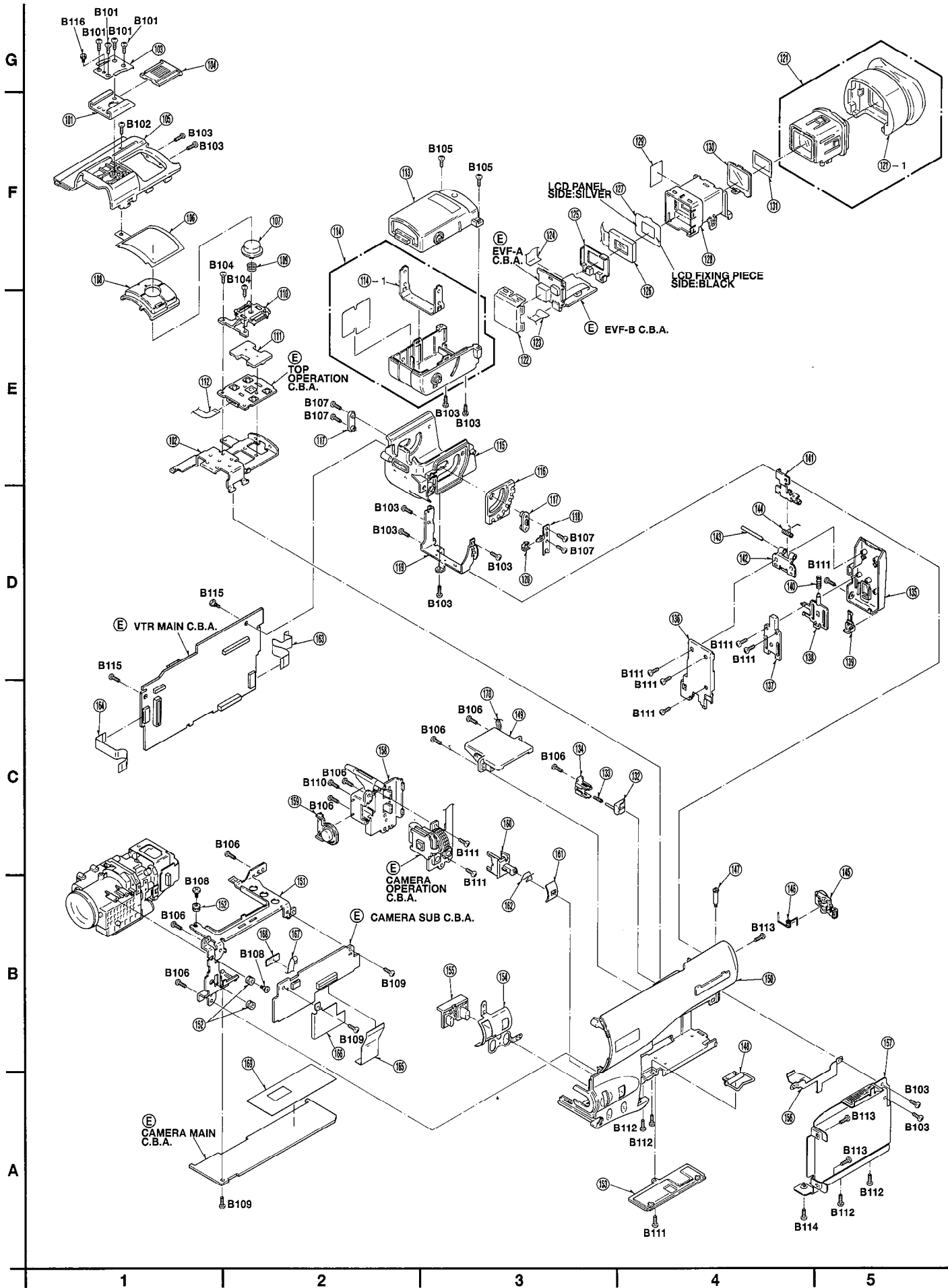
2. IMPORTANT SAFETY NOTICE

Components identified with the mark  have the special characteristics for safety. When replacing any of these components, use only the same type.

Ref. No.	Part No.	Part Name & Description	Pos	Remarks
1	VGP4575	SCREW CAP	2	
2	VMZ2689	BARRIER	1	
4	VMD2786	TRIPOD FRAME	1	
5	VMZ2708	BER BARRIER	1	
7	VXA5933	MECH. FIXING ANGLE ASS'Y	1	
8	VGL0772	TALLY PANEL	1	
10	VYK9185	FRONT CASE (1) ASS'Y	1	
12	VYK7875	MECH. FIXING PIECE ASS'Y	1	
14	VYK8183	SIDE CASE R (2) ASS'Y	1	
15	VMP5461	MULTICONNECTOR ANGLE	1	
16	VGQ4495	GRIP COVER	1	
17	VYK8219	SIDE CASE L (1) ASS'Y	1	
18	VMA9749	REAR FIXING ANGLE	1	
19	VMA9770	GRIP ANGLE	1	
20	VYC0793	GRIP BELT ASS'Y	1	
21	VEK8154	ZOOM OPERATION ASS'Y	1	
22	VEK8160	DEW SENSOR	1	
23	VMG0763	SWITCH	1	
24	VGf0707	JACK COVER	1	
25	VGL0764	VTR CHANGE PANEL	1	
26	VGQ4272	S/S BUTTON PIECE	1	
27	VGQ4492	PHOTO SHOT BUTTON HOLDER	1	
28	VGQ4493	EJECT BUTTON HOLDER	1	
29	VGQ4494	S/S LEVER	1	
30	VGQ4515	B ESD PLATE	1	
31	VGU7574	PHOTO SHOT BUTTON	1	
32	VGU7575	EJECT BUTTON	1	
33	VGU7576	VTR CHANGE BUTTON	1	
34	VGU7577	S/S BUTTON	1	
35	VMC1271	S/S CLICK SPRING	1	
36	VMP5412	DEW FIXING ANGLE	1	
37	VYK8218	REAR CASE (1) ASS'Y	1	
38	VYK7929	CASSETTE COVER ASS'Y	1	
38-1	VMB3148	CASSETTE COVER SPRING	1	
38-2	VMP5413	CASSETTE FIXING BASE	1	
39	VYF2439	LENS HOOD CAP ASS'Y	1	
41	VEK8161	BATTERY TERMINAL ASS'Y	1	
42	VMP5386	BATTERY FIXING ANGLE	1	
43	VGQ4524	BLIND BARRIER	1	
44	VYK8216	LCD FIXING PLATE ASS'Y	1	
45	VYK7881	HINGE PIECE ASS'Y	1	
46	VKW2418	REMOTE CONTROL WINDOW	1	
47	VYK8071	TALLY PANEL HOLDER ASS'Y	1	
48	VKW2419	AWT WINDOW	1	
49	VMP5467	AWT ANGLE	1	
50	VGQ4592	AWT HOLDER	1	
51	VDL0397	IR CUT FILTER	1	
52	VGQ3306	IR PLATE SPACER R	1	
53	VXP1871	WF RING ASS'Y	1	
54	VDW0512	WF DECORETION RING	1	
55	VYF2422	LENS HOOD ASS'Y	1	
56	VSC4686	FRONT CASE ANGLE A	1	
57	VSC4687	FRONT CASE ANGLE B	1	
58	VYK8189	MIC CASE ASS'Y	1	
59	VGQ4894	ESD BARRIER	1	
B1	VHD1100	SCREW	2	
B2	XQN16+BJ5	SCREW	2	
B3	XQN2+BJ4	SCREW	12	
B4	XQN16+B15	SCREW	1	
B7	XQN16+BJ6FZ	SCREW	1	
B8, B9	XQN16+B5FZ	SCREW	4	
B10	XQN2+BJ6FN	SCREW	2	
B11	XQN2+B35FN	SCREW	1	
B12	XQN16+B3FZ	SCREW	5	
B13	XQN2+B25	SCREW	3	
B15	XQN16+BJ4FZ	SCREW	1	
B17	XQN16+B25FZ	SCREW	4	

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② FRAME & CASING PARTS SECTION (2)



2. FRAME & CASING PARTS SECTION (2)

Note: 1. * Be sure to make your orders of replacement parts according to this list.

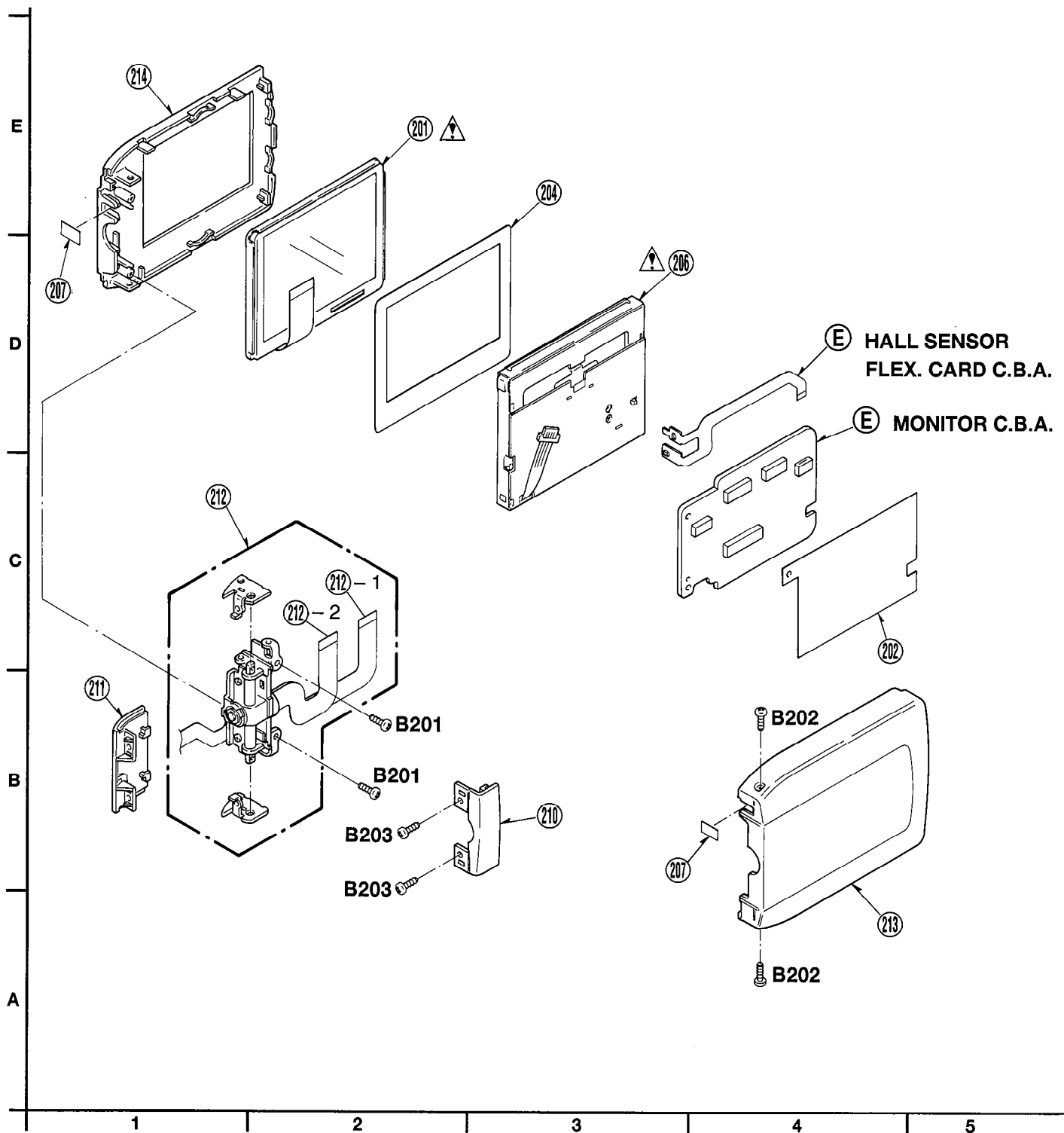
2. IMPORTANT SAFETY NOTICE

Components identified with the mark have the special characteristics for safety. When replacing any of these components, use only the same type.

Ref. No.	Part No.	Part Name & Description	Pos	Remarks
101	VMP2407	SHOE	1	
102	VMP5470	SHOE ANGLE	1	
103	VMC1288	SHOE SPRING	1	
104	VQG4811	SHOE COVER	1	
105	VKM4890	TOP CASE	1	
106	VQG4827	VTR EARTH PLATE	1	
107	VGU7779	VTR OPERATION BUTTON (A)	1	
108	VGU7780	VTR OPERATION BUTTON (B)	1	
109	VMB2531	MODE KNOB SPRING	1	
110	VQG4598	VTR OPERATION HOLDER	1	
111	VQG4853	VTR DEADEN SHEET	1	
112	VJB29131	TOP OP. FLEX. CARD	1	FP801-FP8001
113	VYK8102	EVF CASE ASS'Y (UPPER)	1	
114	VYK8193	EVF CASE ASS'Y (LOWER)	1	
114-1	VMP5484	EVF CASE ANGLE	1	
115	VYK7883	EVF HOLD CASE ASS'Y	1	
116	VQG4584	EVF ROTARY PIECE	1	
117	VQG4585	EVF ROTARY HOLDER	2	
118	VMC1365	EVF ROTARY SPRING	1	
119	VMP5465	EVF HOLD ANGLE	1	
120	VQG4675	EVF LOCK PIECE	1	
121	VYK8120	EYE CAP HOLDER ASS'Y	1	
121-1	VMG1100	EYE CAP	1	
122	VSC4865	LCD SHIELD CASE	1	
123	VJB29127	EVF FLEX. CARD	1	FP801-FP3501
124	VMJ1174	EVF A-EVF B FLEX. CARD	1	EVF A-EVF B
125	VQG4481	B. L. HOLDER	1	
126	F05KM100	LCD	1	
127	VQG4730	LCD MASK	1	
128	VJF1315	LCD FIXING PIECE	1	
129	VQG3457	EVF SHEET	1	
130	VQG4673	EVF PROTECT PANEL	1	
131	VQG4736	EVF BARRIER SHEET	1	
132	VGU7557	BATTERY LOCK KNOB	1	
133	VMB3143	BATTERY LOCK SPRING	1	
134	VQG4448	BATTERY LOCK HOLDER	1	
135	VKF2802	BATTERY DOOR (UPPER)	1	
136	VKF2734	BATTERY DOOR (LOWER)	1	
137	VQG4447	DOOR KNOB HOLDER	1	
138	VGU7556	BATTERY DOOR KNOB	1	
139	VQG4446	BATTERY DOOR COVER	1	
140	VMB2815	EYE CAP LOCK SPRING	1	
141	VMP5390	BATTERY DOOR ROTARY ANGLE	1	
142	VMP5391	BATTERY DOOR FIXING ANGLE	1	
143	VMS6210	BATTERY DOOR SHAFT	1	
144	VMB3144	BATTERY DOOR OPEN SPRING	1	
145	VGU7635	LCD LOCK LEVER	1	
146	VMB3145	LCD LOCK SPRING	1	
147	VHD1093	LCD LOCK SHAFT	1	
148	VYK7758	STAND ARM ASS'Y	1	
149	VYK7879	SPEAKER HOLDER ASS'Y	1	
150	VYK8183	SIDE CASE R (2) ASS'Y	1	
151	VMP5469	CAMERA FRAME	1	
152	VMG0952	EXPAND RUBBER	3	
153	VKF2732	EVR COVER	1	
154	VQG4582	CAMERA EARTH PLATE	1	
155	VGU7778	CAMERA OP. BUTTON	1	
156	VQG4600	RADIATOR PLATE (A)	1	
157	VYQ1525	BATTERY COVER ASS'Y	1	
158	VQG4580	CAMERA OP. HOLDER	1	
159	VGU7777	FOCUS BUTTON	1	
160	VGU7776	AUTO/MANUAL KNOB	1	
161	VQG4813	KNOB COVER	1	
162	VMB3197	KNOB COVER SPRING	1	
163	VMJ16CB050AA	16P FLAT CARD CABLE	1	FP8002-FP8701
164	VMJ13CB045AA	15P FLAT CARD CABLE	1	FP4001-FP4801
165	VJB23444	CAMERA FLEX. CARD	1	FP501-FP301
166	VQG4731	CAMERA SUB BARRIER	1	
167	VJB23445	AWT FLEX. CARD	1	FP502-FP401
168	VQG2184	TAPE	1	
169	VQG4343	CAMERA BARRIER	1	

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③ LCD PARTS SECTION



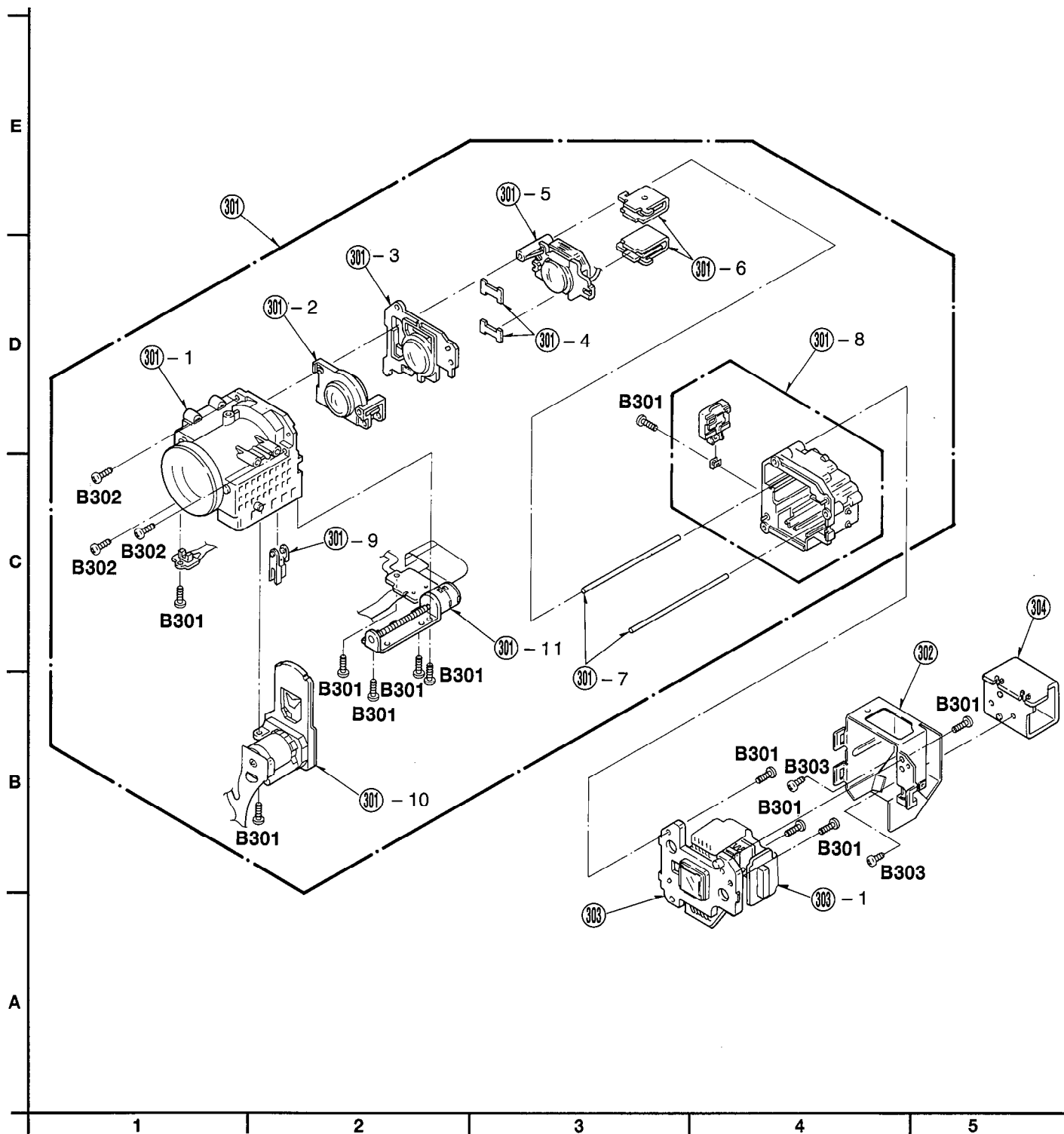
3. LCD PARTS SECTION

Note: 1. * Be sure to make your orders of replacement parts according to this list.
 2. IMPORTANT SAFETY NOTICE
 Components identified with the mark ⚠ have the special characteristics for safety. When replacing any of these components, use only the same type.

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
⚠ 201	DCX501AKB7	LCD PANEL	1	
202	VGQ4630	LCD BARRIER	1	
204	VGQ4695	LCD SHIELD SHEET	1	
⚠ 206	VEK8215	BACK LIGHT ASS'Y	1	
207	VGQ4823	PROTECT SHEET	2	
210	VGQ4814	SHAFT COVER (UPPER)	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
211	VYQ1528	SHAFT COVER (LOWER) ASS'Y	1	
212	VXD0280	LCD ROTARY SHAFT (1) ASS'Y	1	
212-1	VJB03E23	MONITOR SIGNAL FLEX.	1	
212-2	VJB08C27	MONITOR OPERATION FLEX.	1	
213	VYK8187	LCD TOP CASE ASS'Y	1	
214	VYK8188	LCD BOTTOM CASE ASS'Y	1	
B201	XQN2+CJ6	SCREW	2	
B202	XQN2+BF5FZ	SCREW	2	
B203	XQN2+BF4FN	SCREW	2	

4 CAMERA LENS SECTION



4. CAMERA LENS SECTION

Note: 1. * Be sure to make your orders of replacement parts according to this list.

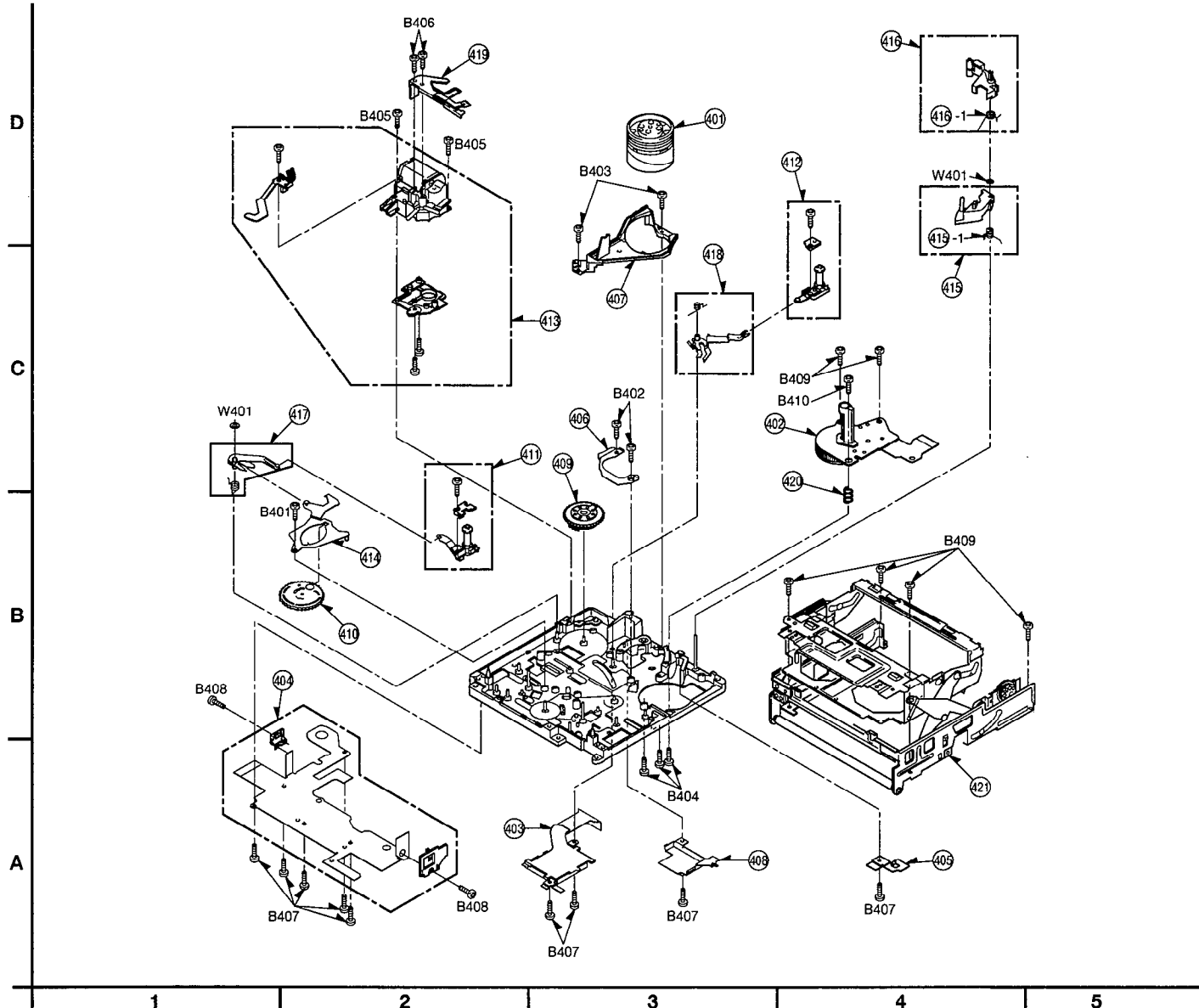
2. IMPORTANT SAFETY NOTICE

Components identified with the mark Δ have the special characteristics for safety. When replacing any of these components, use only the same type.

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
301	VXW0367	LENS ASS'Y	1	
301-1	VXQ0666	MAIN ASS'Y	1	
301-2	VXP1829	2ND MOVING FRAME ASS'Y	1	
301-3	VXQ0667	3RD LENS ASS'Y	1	
301-4	VMA9768	SIDE YOKE	2	
301-5	VXP1830	4TH MOVING FRAME ASS'Y	1	
301-6	VXA5946	YOKE ASS'Y	2	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
301-7	VMS6230	GUIDE POLE	1	
301-8	VDW0506	MASTER FLANGE	1	
301-9	VML3277	2ND LACK	1	
301-10	VEK8197	LENS FLEX. CARD	1	
301-11	VEM0621	ZOOM MOTOR ASS'Y	1	
302	VSC4668	SHIELD CASE	1	
303	VXQ0669	PRISM ASS'Y	1	
303-1	VEP22269B	CCD FLEX. CARD . C. B. A.	1	(RTL)
304	VGQ4738	CCD PLATE	1	
B301	XQN16+CJ5	SCREW	11	
B302	XQN16+CJ8	SCREW	3	
B303	XQN2+B3	SCREW	2	

5 VCR MECHANISM SECTION (1)



5. VCR MECHANISM SECTION (1)

Note: 1. * Be sure to make your orders of replacement parts according to this list.

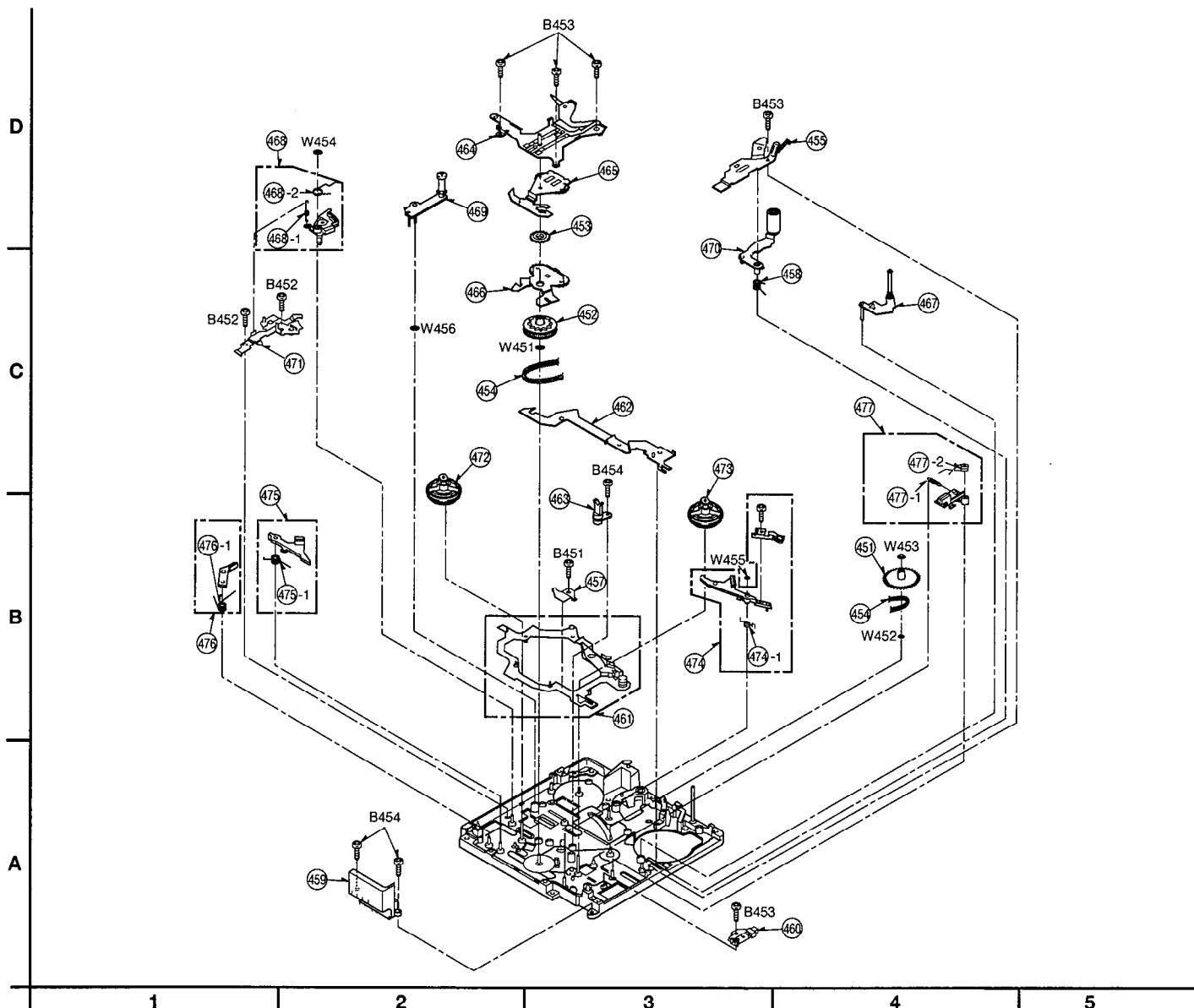
2. IMPORTANT SAFETY NOTICE

Components identified with the mark Δ have the special characteristics for safety. When replacing any of these components, use only the same type.

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
401	VEG1438	CYLINDER UNIT	1	
402	VEM0624	CAPSTAN MOTOR ASS'Y	1	
403	VEP05352A	HEAD AMP P. C. BOARD	1	
403~*	VSC4639	HEAD AMP SHIELD CASE	1	
404	VES0856	FLEXIBLE CABLE	1	
405	VMA9708	CAPSTAN COVER	1	
406	VMA9179	RADON PLATE	1	
407	VMD2373	RAIL	1	
408	VSC4640	SHIELD CASE	1	
409	VSR0114	MODE SW	1	
410	VXA5407	CAM GEAR	1	
411	VXA5409	S BOAT ASS'Y	1	
412	VXA5410	T BOAR ASS'Y	1	
413	VXA5417	GEAR BOX	1	
414	VXA5612	RADON ARM ASS'Y	1	
415	VXL2461	T2 ARM ASS'Y	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
415-1	VMB2789	T2 ARM SPRING	1	
416	VXL2468	CLEANING ARM ASS'Y	1	
416-1	VMB2791	CLEANING ARM SPRING	1	
417	VXL2470	S1 ARM ASS'Y	1	
418	VXL2471	T1 ARM ASS'Y	1	
419	VMA9753	STOPPER	1	
420	VMB2777	CAPSTAN ADJ. SPRING	1	
421	VXA5387	GARAGE ASS'Y	1	
B401	VHD0878	SCREW	1	
B402	VHD0989	SCREW	2	
B403	XQN14+B4	SCREW	2	
B404	VXQ0439	SCREW	3	
B405	XQN14+B35	SCREW	2	
B406	XQN14+BQ4	SCREW	2	
B407	XQN14+B15	SCREW	9	
B408	XQN14+B2	SCREW	2	
B409	VHD0882	SCREW	6	
B410	XQN14+B4FZ	SCREW	1	
W401	VMX2027	CUT WASHER	2	

6 VCR MECHANISM SECTION (2)



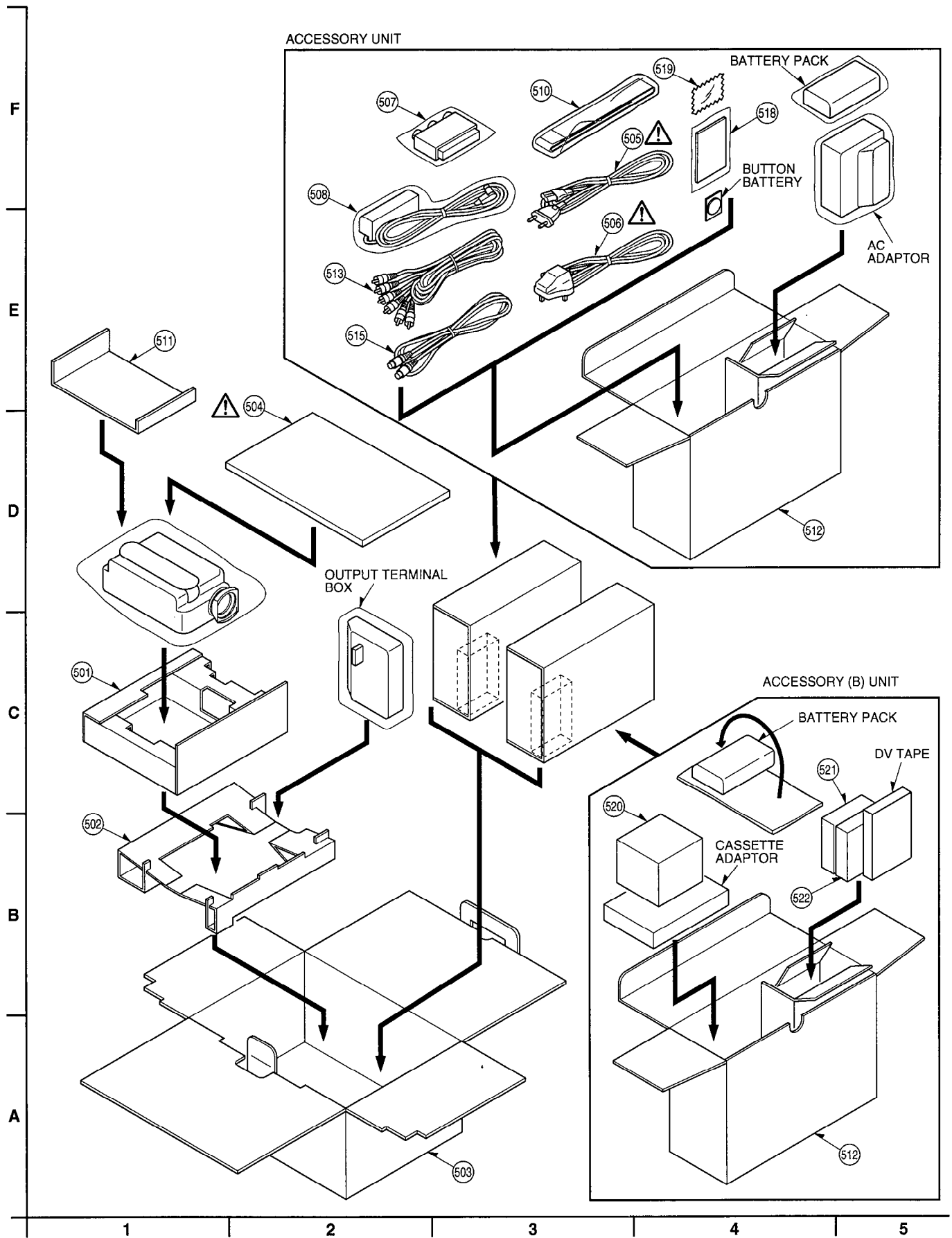
6. VCR MECHANISM SECTION (2)

Note: 1. * Be sure to make your orders of replacement parts according to this list.
2. IMPORTANT SAFETY NOTICE
Components identified with the mark have the special characteristics for safety. When replacing any of these components, use only the same type.

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
451	VDG1030	DRIVE PULLEY	1	
452	VDG1031	CENTER PULLEY	1	
453	VDG1032	SENSOR GEAR	1	
454	VDV0265	TIMING BELT	1	
455	VMA9178	PINCH PRESSURE PLATE	1	
457	VMA9181	BRAKE ROD SUPPORT (T)	1	
458	VMB2776	SPRING	1	
459	VSH0087	M/C SWITCH	1	
460	VSJ0114	SOLENOID	1	
461	VXA5401	BRAKE ROD ASS'Y	1	
462	VXA5408	T3 ROD ASS'Y	1	
463	VXA5411	LED HOLDER ASS'Y	1	
464	VXA5412	COVER PLATE ASS'Y	1	
465	VXL2454	P IDLER ARM ASS'Y	1	
466	VXL2455	FR IDLER ARM ASS'Y	1	
467	VXL2456	TENSION ARM ASS'Y	1	
468	VXL2732	PAD ARM ASS'Y	1	
468-1	VMB2788	TENSION SPRING	1	
468-2	VMB2787	PAD ARM SPRING	1	
469	VXL2462	T3 ARM ASS'Y	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
470	VXL2464	PINCH ARM ASS'Y	1	
471	VXL2466	EJECT ARM ASS'Y	1	
472	VXR0347	SUPPLY REEL TABLE	1	
473	VXR0348	TAKE UP REEL TABLE	1	
474	VXZ0319	TAKE UP MAIN BRAKE	1	
474-1	VMB2782	T MAIN BRAKE SPRING	1	
475	VXZ0321	SUPPLY MAIN BRAKE	1	
475-1	VMB2783	S MAIN BRAKE SPRING	1	
476	VXZ0322	FF BRAKE ASS'Y	1	
476-1	VMB2784	FF BRAKE SPRING	1	
477	VXZ0323	REV BRAKE ASS'Y	1	
477-1	VMB2786	REV SPRING	1	
477-2	VMB2785	REV BRAKE SPRING	1	
B451	VHD0882	SCREW	1	
B452	XQN14+B15	SCREW	2	
B453	VHD0883	SCREW	5	
B454	XQN14+B35	SCREW	3	
W451	VMX2503	WASHER	1	
W452	VMX2400	WASHER	1	
W453	VMX2504	WASHER	1	
W454	VMX2027	CUT WASHER	1	
W455	VMX2028	WASHER	1	
W456	VMX2394	WASHER	1	


7 PACKING PARTS & ACCESSORIES SECTION



7. PACKING PARTS & ACCESSORIES SECTION

Note: 1. * Be sure to make your orders of replacement parts according to this list.

2. IMPORTANT SAFETY NOTICE

Components identified with the mark  have the special characteristics for safety. When replacing any of these components, use only the same type.

[illegible][illegible]

4-2. ELECTRICAL REPLACEMENT PARTS LIST

Note: 1. Be sure to make your orders of replacement parts according to this list.
 2. IMPORTANT SAFETY NOTICE : Components identified with the mark Δ have the special characteristics for safety. When replacing any of these components, use only the same type.
 3. Unless otherwise specified,
 All resistors are in OHMS, K=1,000 OHMS. All capacitors are in MICROFARADS(uf), P=uuF.
 4. The P.C. Board units marked with "■" show below the main assembled parts.
 5. The marking (RTL) indicates the retention time is limited for this item.
 After the discontinuation of this assembly in production, it will no longer be available.

VEP01801C

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
■	VEP01801C	POWER P. C. BOARD	1	(RTL)
■	VEP02561A	DRIVE P. C. BOARD	1	(RTL)
■	VEP03E52A	VTR MAIN P. C. BOARD	1	(RTL)
■	VEP23443B	CAMERA/MAIN P. C. BOARD	1	(RTL)
■	VEP20737B	CAMERA OPERATION P. C. BOARD	1	(RTL)
■	VEP28240D	E. V. F. (A) P. C. BOARD	1	(RTL)
■	VEP28244B	E. V. F. (B) P. C. BOARD	1	(RTL)
■	VEP08C28A	HALL SENSOR P. C. BOARD	1	(RTL)
■	VEP26195B	MONITOR P. C. BOARD	1	(RTL)
■	VEP00Y65A	LCD/IF P. C. BOARD	1	(RTL)
■	VEP04684A	FRONT P. C. BOARD	1	(RTL)
■	VEP22270A	AWT SENSOR P. C. BOARD	1	(RTL)
■	VEP08C24A	TOP OPERATION P. C. BOARD	1	(RTL)
■	VEP08C37A	REAR OPERATION P. C. BOARD	1	(RTL)
■	VEP22278A	CAMERA SUB P. C. BOARD	1	(RTL)
■	VEP05352A	HEAD AMP P. C. BOARD	1	(RTL)
■	VEP01801C	POWER P. C. BOARD	1	(RTL)
C1001	ECUX1A335KBM	C. CAPACITOR CH 10V 3.3P	1	
C1002	ECGC1BB150	C. CAPACITOR 12V 15P	1	
C1003, 04	ECUX1C106VBP	C. CAPACITOR CH 16V 10U	2	
C1009	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	1	
C1011	ECUX1C104KBV	C. CAPACITOR CH 16V 0.1U	1	
C1012	ECUX1A335KBM	C. CAPACITOR CH 10V 3.3P	1	
C1013	ECUX1E331KBQ	C. CAPACITOR CH 25V 330P	1	
C1014	ECUX1E223KBV	C. CAPACITOR CH 25V 0.023U	1	
C1015	ECST1AY106Z	T. CAPACITOR CH 10V 10U	1	
C1016-19	ECUM1A105KBN	C. CAPACITOR CH 10V 1U	4	
C1021	ECUX1C104KBV	C. CAPACITOR CH 16V 0.1U	1	
C1022	ECUX1A335KBM	C. CAPACITOR CH 10V 3.3P	1	
C1023	ECUX1E331KBQ	C. CAPACITOR CH 25V 330P	1	
C1024	ECUX1E223KBV	C. CAPACITOR CH 25V 0.023U	1	
C1025	ECST1AY106Z	T. CAPACITOR CH 10V 10U	1	
C1026-29	ECUM1A105KBN	C. CAPACITOR CH 10V 1U	4	
C1031	ECUX1C104KBV	C. CAPACITOR CH 16V 0.1U	1	
C1032	ECUX1A335KBM	C. CAPACITOR CH 10V 3.3P	1	
C1033	ECUX1E392KBQ	C. CAPACITOR CH 25V 3900P	1	
C1034	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1	
C1035	ECST1AY106Z	T. CAPACITOR CH 10V 10U	1	
C1036	ECUM1A105KBN	C. CAPACITOR CH 10V 1U	1	
C1041	ECUX1C104KBV	C. CAPACITOR CH 16V 0.1U	1	
C1042	ECUX1A335KBM	C. CAPACITOR CH 10V 3.3P	1	
C1043	ECUX1C103KBQ	C. CAPACITOR CH 16V 0.001U	1	
C1045	ECST1AY106Z	T. CAPACITOR CH 10V 10U	1	
C1046, 47	ECUM1A105KBN	C. CAPACITOR CH 10V 1U	2	
C1051	ECUX1E102KBQ	C. CAPACITOR CH 25V 1000P	1	
C1052	ECUX1E105KBM	C. CAPACITOR CH 25V 1U	1	
C1053	ECUX1E471KBQ	C. CAPACITOR CH 25V 470P	1	
C1055	ECUX1C106VBP	C. CAPACITOR CH 16V 10U	1	
C1056	ECUM1A105KBN	C. CAPACITOR CH 10V 1U	1	
C1058	ECUX1C106VBP	C. CAPACITOR CH 16V 10U	1	
C1059	ECUX1A335KBM	C. CAPACITOR CH 10V 3.3P	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C1061	ECUX1E152KBQ	C. CAPACITOR CH 25V 1500P	1	
C1062	ECUX1E332KBQ	C. CAPACITOR CH 25V 3300P	1	
C1063, 64	ECUM1A225KBM	C. CAPACITOR CH 10V 22U	2	
C1065, 66	ECUM1A105KBN	C. CAPACITOR CH 10V 1U	2	
C1071	ECUX1C104KBV	C. CAPACITOR CH 16V 0.1U	1	
C1072	ECUX1A335KBM	C. CAPACITOR CH 10V 3.3P	1	
C1073	ECUX1E331KBQ	C. CAPACITOR CH 25V 330P	1	
C1074	ECUX1E223KBV	C. CAPACITOR CH 25V 0.023U	1	
C1075	ECST1AY106Z	T. CAPACITOR CH 10V 10U	1	
C1076	ECUM1A105KBN	C. CAPACITOR CH 10V 1U	1	
C1101	ECUX1H101JCQ	C. CAPACITOR CH 50V 100P	1	
C1102	ECUX1C334KBN	C. CAPACITOR CH 16V 0.33U	1	
C1103	ECUX1C473KBV	C. CAPACITOR CH 16V 0.047U	1	
C1104	ECUX1C104KBV	C. CAPACITOR CH 16V 0.1U	1	
C1105	ECUM1A105KBN	C. CAPACITOR CH 10V 1U	1	
C1106	ECUX1C104KBV	C. CAPACITOR CH 16V 0.1U	1	
C1107	ECUM1A105KBN	C. CAPACITOR CH 10V 1U	1	
C1111	ECUX1H471JCQ	C. CAPACITOR CH 50V 470P	1	
C1112	ECUX1E471KBQ	C. CAPACITOR CH 25V 470P	1	
C1113	ECUX1H151JCQ	C. CAPACITOR CH 50V 150P	1	
C1114	ECUX1H390JCQ	C. CAPACITOR CH 50V 39P	1	
C1117	ECUM1A105KBN	C. CAPACITOR CH 10V 1U	1	
C1118	ECST1AY106Z	T. CAPACITOR CH 10V 10U	1	
C1119	ECUM1A105KBN	C. CAPACITOR CH 10V 1U	1	
C1121	ECUX1H822KBV	C. CAPACITOR CH 50V 8200P	1	
C1122	ECUX1C822KBQ	C. CAPACITOR CH 16V 8200P	1	
C1123	ECUX1H151JCQ	C. CAPACITOR CH 50V 150P	1	
C1124	ECUX1H390JCQ	C. CAPACITOR CH 50V 39P	1	
C1128, 29	ECUM1A105KBN	C. CAPACITOR CH 10V 1U	2	
C1131	ECUX1H471JCQ	C. CAPACITOR CH 50V 470P	1	
C1132	ECUX1E222KBQ	C. CAPACITOR CH 25V 2200P	1	
C1133	ECUX1H151JCQ	C. CAPACITOR CH 50V 150P	1	
C1134	ECUX1H390JCQ	C. CAPACITOR CH 50V 39P	1	
C1141	ECUM1E223KBN	C. CAPACITOR CH 25V 0.022U	1	
C1142	ECUX1H222KBV	C. CAPACITOR CH 50V 2200P	1	
C1143	ECUX1H151JCQ	C. CAPACITOR CH 50V 150P	1	
C1144	ECUX1H390JCQ	C. CAPACITOR CH 50V 39P	1	
C1151	ECUX1H153KBV	C. CAPACITOR CH 50V 0.015U	1	
C1152	ECUX1C822KBQ	C. CAPACITOR CH 16V 8200P	1	
C1153	ECUX1H151JCQ	C. CAPACITOR CH 50V 150P	1	
C1154	ECUX1H820JCQ	C. CAPACITOR CH 50V 82P	1	
C1155	ECST1AY225Z	T. CAPACITOR CH 10V 2.2U	1	
C1156	ECST1AY106Z	T. CAPACITOR CH 10V 10U	1	
C1157	ECUX0J335KBN	C. CAPACITOR CH8.3V 3.3U	1	
C1171	ECUX1H822KBV	C. CAPACITOR CH 50V 8200P	1	
C1172	ECUX1C822KBQ	C. CAPACITOR CH 16V 8200P	1	
C1173	ECUX1H151JCQ	C. CAPACITOR CH 50V 150P	1	
C1174	ECUX1H390JCQ	C. CAPACITOR CH 50V 39P	1	
C1251	ECUX1C106VBP	C. CAPACITOR CH 16V 10U	1	
D1051, 52	MA729	DIODE	2	
D1061, 62	MA728	DIODE	2	
D1101	MA8120-L	DIODE	1	
D1102	MA728	DIODE	1	
D1103	1SS355	DIODE	1	
D1151	MA8160-M	DIODE	1	
D1152	1SS355	DIODE	1	
FP1001	VJS3320B014	CONNECTOR (FEMALE)	1	
IC1001	BA9734AKV	IC	1	
IC1002	TA75S393F	IC	1	
Δ IP1001	VSF0233F31	FUSE	1	
L1001	ELC5B3R9M	COIL	3.9UH	1
L1011	ELL6TR560	COIL	56UH	1
L1012	VLQ0810M4R7	COIL	4.7UH	1
L1013	VLQ0779K100	COIL	10UH	1
L1014	VLQ0780K100	COIL	10UH	1
L1015-17	VLQ0779K100	COIL	10UH	3
L1021	ELL6TR150	COIL	15UH	1
L1022	VLQ0810M4R7	COIL	4.7UH	1
L1023	VLQ0779M4R7	COIL	4.7UH	1
L1024	VLQ0779K100	COIL	10UH	1

VEP01801C / VEP02561A

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
L1025	VLQ0780K100	COIL 10UH	1	
L1028	VLQ0779K100	COIL 10UH	1	
L1029	VLQ0779K100	COIL 10UH	1	
L1031	ELL6TR151	COIL 150UH	1	
L1032	VLQ0810M4R7	COIL 4. 7UH	1	
L1041	ELL6TR101M	COIL 100UH	1	
L1042	VLQ0810M4R7	COIL 4. 7UH	1	
L1043	VLQ0780K100	COIL 10UH	1	
L1051, 52	VLQ0779K331	COIL 330UH	2	
L1054	VLQ0779K100	COIL 10UH	1	
L1061	ELL6TRD003	COIL 3UH	1	
L1062	ELL6TRD004	COIL 4UH	1	
L1071	ELL6TR330	COIL 33UH	1	
L1072	VLQ0810M4R7	COIL 4. 7UH	1	
PP1001	VJP3884B080	CONNECTOR (MALE)	1	
Q1011	FP102	TRANSISTOR	1	
Q1021	FP102	TRANSISTOR	1	
Q1022	2SK2151	TRANSISTOR	1	
Q1031	FP102	TRANSISTOR	1	
Q1041	FP102	TRANSISTOR	1	
Q1042	2SK2151	TRANSISTOR	1	
Q1051	2SA1731-R	TRANSISTOR	1	
Q1052	2SB970X	TRANSISTOR	1	
Q1053	2SD2216	TRANSISTOR	1	
Q1054	XP1401	TRANSISTOR-RESISTOR	1	
Q1055	2SD2216	TRANSISTOR	1	
Q1056	2SB1462-R	TRANSISTOR	1	
Q1061, 62	FP102	TRANSISTOR	2	
Q1071	FP102	TRANSISTOR	1	
Q1101	2SB1462-R	TRANSISTOR	1	
QR1001	UN2130X	TRANSISTOR-RESISTOR	1	
QR1002	UN821F	TRANSISTOR-RESISTOR	1	
QR1003	MRN1104	TRANSISTOR	1	
QR1004	MRN2111	TRANSISTOR	1	
QR1055	MRN1104	TRANSISTOR	1	
QR1101	MRN1107	TRANSISTOR	1	
R1001	ERJ2GEJ472	M. RESISTOR CH 2W 4. 7K	1	
R1003, 04	ERJ2GEJ225	M. RESISTOR CH 2W 2. 2M	2	
R1005	ERJ2GEJ103	M. RESISTOR CH 2W 10K	1	
R1007	ERJ8GEY0R00	M. RESISTOR CH 1/8W 0	1	
R1008	ERJ2GEJ473	M. RESISTOR CH 2W 47K	1	
R1009	ERJ8GEY0R00	M. RESISTOR CH 1/8W 0	1	
R1010	ERJ3RED820	M. RESISTOR CH 3W 82	1	
R1011	ERJ6RBB882	M. RESISTOR CH 1/10W 6. 8K	1	
R1012	ERJ3RED820	M. RESISTOR CH 3W 82	1	
R1013	ERJ3RBD151	M. RESISTOR CH 3W 150	1	
R1014	ERJ6RBB272	M. RESISTOR CH 1/10W 2. 7K	1	
R1015	ERJ2GEJ331	M. RESISTOR CH 2W 330	1	
R1020	ERJ3RED820	M. RESISTOR CH 3W 82	1	
R1021	ERJ6RBB272	M. RESISTOR CH 1/10W 2. 7K	1	
R1022	ERJ3RED820	M. RESISTOR CH 3W 82	1	
R1023	ERJ3RBD331	M. RESISTOR CH 3W 330	1	
R1024	ERJ6RBB272	M. RESISTOR CH 1/10W 2. 7K	1	
R1025	ERJ2GEJ331	M. RESISTOR CH 2W 330	1	
R1030	ERJ3RED820	M. RESISTOR CH 3W 82	1	
R1031	ERJ6RBB272	M. RESISTOR CH 1/10W 2. 7K	1	
R1032	ERJ3RED820	M. RESISTOR CH 3W 82	1	
R1033	ERJ3RED220	M. RESISTOR CH 3W 22	1	
R1034	ERJ6RBB272	M. RESISTOR CH 1/10W 2. 7K	1	
R1035	ERJ2GE0R00	M. RESISTOR CH 2W 0	1	
R1040	ERJ3RED820	M. RESISTOR CH 3W 82	1	
R1041	ERJ6RBB152	M. RESISTOR CH 1/10W 1. 5K	1	
R1042	ERJ3RED820	M. RESISTOR CH 3W 82	1	
R1043	ERJ3RBD301	M. RESISTOR CH 3W 300	1	
R1044	ERJ6RBB272	M. RESISTOR CH 1/10W 2. 7K	1	
R1050	ERJ3RED820	M. RESISTOR CH 3W 82	1	
R1051	ERJ6RBB273	M. RESISTOR CH 1/10W 27K	1	
R1052	ERJ3RED820	M. RESISTOR CH 3W 82	1	
R1053	ERJ3RBD151	M. RESISTOR CH 3W 150	1	
R1054	ERJ6RBB272	M. RESISTOR CH 1/10W 2. 7K	1	
R1056	ERJ2GEJ470	M. RESISTOR CH 2W 47	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R1057	ERJ2RHD133	M. RESISTOR CH 2W 13K	1	
R1058	ERJ2RHD381	M. RESISTOR CH 2W 380	1	
R1059	ERJ2RHD272	M. RESISTOR CH 2W 2.7K	1	
R1061, 62	ERJ2GEJ122	M. RESISTOR CH 2W 1.2K	2	
R1070	ERJ3RED820	M. RESISTOR CH 3W 82	1	
R1071	ERJ6RB8272	M. RESISTOR CH 1/10W 2.7K	1	
R1072	ERJ3RED820	M. RESISTOR CH 3W 82	1	
R1073	ERJ3RBD221	M. RESISTOR CH 3W 220	1	
R1074	ERJ6RB8272	M. RESISTOR CH 1/10W 2.7K	1	
R1075	ERJ2GEJ331	M. RESISTOR CH 2W 330	1	
R1081	ERJ2GEJ472	M. RESISTOR CH 2W 4.7K	1	
R1101	ERJ3RBD223	M. RESISTOR CH 3W 22K	1	
R1102	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R1103	ERJ2GEJ472	M. RESISTOR CH 2W 4.7K	1	
R1104	ERJ2GEJ123	M. RESISTOR CH 2W 12K	1	
R1105	ERJ2GEJ563	M. RESISTOR CH 2W 56K	1	
R1106	ERJ2GEJ273	M. RESISTOR CH 2W 27K	1	
R1107	ERJ2GEJ225	M. RESISTOR CH 2W 2.2M	1	
R1108	ERJ2GEJ473	M. RESISTOR CH 2W 47K	1	
R1109	ERJ2GEJ103	M. RESISTOR CH 2W 10K	1	
R1111	ERJ2GEJ151	M. RESISTOR CH 2W 150	1	
R1112	ERJ2GEJ822	M. RESISTOR CH 2W 8.2K	1	
R1121	ERJ2GEJ151	M. RESISTOR CH 2W 150	1	
R1122	ERJ2GEJ882	M. RESISTOR CH 2W 6.8K	1	
R1131	ERJ2GEJ151	M. RESISTOR CH 2W 150	1	
R1132	ERJ2GEJ882	M. RESISTOR CH 2W 6.8K	1	
R1136	ERJ2GEOR00	M. RESISTOR CH 2W 0	1	
R1141	ERJ2GEJ151	M. RESISTOR CH 2W 150	1	
R1142	ERJ2GEJ103	M. RESISTOR CH 2W 10K	1	
R1150	ERJ8GEYJ880	M. RESISTOR CH 1/8W 68	1	
R1151	ERJ2GEJ151	M. RESISTOR CH 2W 150	1	
R1152	ERJ2GEJ472	M. RESISTOR CH 2W 4.7K	1	
R1153	ERJ2RHD123	M. RESISTOR CH 2W 12K	1	
R1154	ERJ2RHD473	M. RESISTOR CH 2W 47K	1	
R1155	ERJ2GEJ103	M. RESISTOR CH 2W 10K	1	
R1156	ERJ2GEJ332	M. RESISTOR CH 2W 3.3K	1	
R1157	ERJ2GEJ272	M. RESISTOR CH 2W 2.7K	1	
R1158, 59	ERJ2GEJ473	M. RESISTOR CH 2W 47K	2	
R1171	ERJ2GEJ151	M. RESISTOR CH 2W 150	1	
R1172	ERJ2GEJ103	M. RESISTOR CH 2W 10K	1	
R1253-55	ERJ2GEJ473	M. RESISTOR CH 2W 47K	3	
R1256	ERJ2GEJ224	M. RESISTOR CH 2W 220K	1	
R43001-04	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	4	
R43005	ERJ3GEYJ563	M. RESISTOR CH 1/16W 56K	1	
R43006	ERJ3GEYG822	M. RESISTOR CH 1/16W 8.2K	1	
R43008-11	ERJ3GEYJ881	M. RESISTOR CH 1/16W 680	4	
T1001	VTP0499	TRANSFORMER	1	
■ VEPO2561A		DRIVE P. C. BOARD	1 (RTL)	
C2201	ECUX1E273KBV	C. CAPACITOR CH 25V 0.027U	1	
C2202	ECUM1A105KBN	C. CAPACITOR CH 10V 1U	1	
C2203	ECUX1H270JCQ	C. CAPACITOR CH 50V 27U	1	
C2204	ECUM1A564KBN	C. CAPACITOR CH 10V 0.56U	1	
C2205	ECUX1E332KBQ	C. CAPACITOR CH 25V 3300P	1	
C2207	ECUM1A105KBN	C. CAPACITOR CH 10V 1U	1	
C2208	ECUX1C104KBV	C. CAPACITOR CH 16V 0.1U	1	
C2209	ECUX1E223KBV	C. CAPACITOR CH 25V 0.023U	1	
C2210	ECUM1C473KBV	C. CAPACITOR CH 16V 0.047U	1	
C2211	ECST0JY475Z	T. CAPACITOR CH6. 3V 4.7U	1	
C2212-14	ECUX1C104ZFQ	C. CAPACITOR CH 16V 0.01U	3	
C2215	ECUX0J335KBN	C. CAPACITOR CH6. 3V 3.3U	1	
C2217-19	ECUX1C104ZFQ	C. CAPACITOR CH 16V 0.01U	3	
C2223	ECUX1C103KBQ	C. CAPACITOR CH 16V 0.001U	1	
C2225	ECUX0J335KBN	C. CAPACITOR CH6. 3V 3.3U	1	
C2226, 27	ECUX1C103KBQ	C. CAPACITOR CH 16V 0.001U	2	
C2230	ECUX0J335KBN	C. CAPACITOR CH6. 3V 3.3U	1	
C2231	ECUX1E102KBQ	C. CAPACITOR CH 25V 1000P	1	
C2232	ECUX0J335KBN	C. CAPACITOR CH6. 3V 3.3U	1	

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Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C2233	ECUM1A105KBN	C. CAPACITOR CH 10V 1U	1	
C2234	ECUX1H101JCQ	C. CAPACITOR CH 50V 100P	1	
C2235-37	ECUX1C104KBV	C. CAPACITOR CH 16V 0.1U	3	
C2238, 39	ECUX0J335KBN	C. CAPACITOR CH6.3V 3.3U	2	
C2240	ECUX1H150JCQ	C. CAPACITOR CH 50V 15P	1	
C2245	ECUX1E102KBQ	C. CAPACITOR CH 25V 1000P	1	
C2246	ECUM1A564KBN	C. CAPACITOR CH 10V 0.56U	1	
C2247-49	ECUX1E102KBQ	C. CAPACITOR CH 25V 1000P	3	
C2250	ECST0JX476Z	T. CAPACITOR CH6.3V 47U	1	
C2251	ECUX1C103KBQ	C. CAPACITOR CH 16V 0.001U	1	
C2255-57	ECUX1C104ZFQ	C. CAPACITOR CH 16V 0.01U	3	
FP2002	VJS3319B022	CONNECTOR (FEMALE)	1	
FP2003	VJS3319B009	CONNECTOR (FEMALE)	1	
FP2004	VJS3320B030	CONNECTOR (FEMALE)	1	
IC2201	TB6519AF	IC	1	
IC2202, 03	MDCC05	IC	2	
IC2204	TA75S393F	IC	1	
IC2205	TC75W54FU	IC	1	
IC2206	TC7S86FU	IC	1	
IC2207	BA8289F	IC	1	
PS2001	VJS3989A050	CONNECTOR (FEMALE)	1	
Q2201	2SB1462-R	TRANSISTOR	1	
Q2202	2SD2216	TRANSISTOR	1	
R2201	ERJ2GEJ682	M. RESISTOR CH 2W 6.8K	1	
R2202	ERJ2GEJ471	M. RESISTOR CH 2W 470	1	
R2204	ERJ2GEJ224	M. RESISTOR CH 2W 220K	1	
R2205	ERJ2GEJ102	M. RESISTOR CH 2W 1K	1	
R2207	ERJ2GEJ561	M. RESISTOR CH 2W 560	1	
R2208	ERJ8GEYJR33	M. RESISTOR CH 1/8W 0.33	1	
R2209	ERJ8GEYJR47	M. RESISTOR CH 1/8W 0.47	1	
R2210, 11	ERJ2GEJ472	M. RESISTOR CH 2W 4.7K	2	
R2212	ERJ8RQJR27	M. RESISTOR CH 1/8W 0.27	1	
R2213	ERJ2GEJ471	M. RESISTOR CH 2W 470	1	
R2214	ERJ2GEJ102	M. RESISTOR CH 2W 1K	1	
R2215, 16	ERJ2GEJ103	M. RESISTOR CH 2W 10K	2	
R2220	ERJ2RHD104	M. RESISTOR CH 2W 100K	1	
R2221	ERJ2RHD431	M. RESISTOR CH 2W 430	1	
R2222, 23	ERJ2GEJ223	M. RESISTOR CH 2W 22K	2	
R2224	ERJ2GEJ182	M. RESISTOR CH 2W 1.8K	1	
R2225	ERJ2GEJ394	M. RESISTOR CH 2W 390K	1	
R2226	ERJ2GEJ103	M. RESISTOR CH 2W 10K	1	
R2227	ERJ2GEJ222	M. RESISTOR CH 2W 2.2K	1	
R2228	ERJ2GEJ105	M. RESISTOR CH 2W 1M	1	
R2229	ERJ2GEJ103	M. RESISTOR CH 2W 10K	1	
R2231	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1	
R2232	ERJ2GEJ471	M. RESISTOR CH 2W 470	1	
R2233	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R2234	ERJ2GEJ394	M. RESISTOR CH 2W 390K	1	
R2235	ERJ2GEJ104	M. RESISTOR CH 2W 100K	1	
R2236	ERJ2GEJ273	M. RESISTOR CH 2W 27K	1	
R2237	ERJ2GEJ222	M. RESISTOR CH 2W 2.2K	1	
R2238	ERJ2GEJ122	M. RESISTOR CH 2W 1.2K	1	
RA2201	EXBV8V331J	COMBI. R-R 330	1	
RA2203	EXBV4V102J	COMBI. R-R 1K	1	
		MISCELLANEOUS		
	VMZ2689	INSULATION SHEET	1	
	VEP03E52A	VTR MAIN P.C. BOARD	1 (RTL)	
C801	ECST0JX476Z	T. CAPACITOR CH6.3V 47U	1	
C802	ECUM1A105KBN	C. CAPACITOR CH 10V 1U	1	
C803-10	ECUX1C103KBQ	C. CAPACITOR CH 16V 0.01U	8	

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Ref.No.	Part No.	Part Name & Description	Pcs	Remarks	Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C3035	ECUX1C103KBQ	C. CAPACITOR CH 16V 0.01U	1		C3817, 18	ECUX1C104ZFQ	C. CAPACITOR CH 16V 0.01U	2	
C3036	ECUX1H100CQ	C. CAPACITOR CH 50V 10P	1		C3820	ECUX1C104ZFQ	C. CAPACITOR CH 16V 0.01U	1	
C3037	ECUM1A105KBN	C. CAPACITOR CH 10V 1U	1		C3822	ECUX1C104ZFQ	C. CAPACITOR CH 16V 0.01U	1	
C3038, 39	ECUX1H101JCQ	C. CAPACITOR CH 50V 100P	2		C3824-28	EEJKOJS108	E. CAPACITOR 6.3V 10M	3	
C3040, 41	ECUM1A105KBN	C. CAPACITOR CH 10V 1U	2		C3827	ECUX1C103KBQ	C. CAPACITOR CH 16V 0.01U	1	
C3042	ECUX1C103KBQ	C. CAPACITOR CH 16V 0.01U	1		C3901	ECSTOJC107Z	T. CAPACITOR CH6.3V 100U	1	
C3043-48	ECUX1C104ZFQ	C. CAPACITOR CH 16V 0.01U	6		C3902	ECUX1C103KBQ	C. CAPACITOR CH 16V 0.01U	1	
C3050, 51	ECUX1C104ZFQ	C. CAPACITOR CH 16V 0.01U	2		C4001	ECUX1C104KBV	C. CAPACITOR CH 16V 0.1U	1	
C3053, 54	ECUX1C104ZFQ	C. CAPACITOR CH 16V 0.01U	2		C4002	EEJKOJS108	E. CAPACITOR 6.3V 10M	1	
C3055-58	ECUX1C103KBQ	C. CAPACITOR CH 16V 0.01U	4		C4003, 04	VCSOJJ108	E. CAPACITOR 6.3V 10M	2	
C3060	ECUX1H150JCQ	C. CAPACITOR CH 50V 15P	1		C4005, 06	ECUX1E152KBQ	C. CAPACITOR CH 25V 1500P	2	
C3061	ECUX1H120JCQ	C. CAPACITOR CH 50V 12P	1		C4007	ECSTOJX226Z	T. CAPACITOR CH6.3V 22U	1	
C3085	ECUX1C104ZFQ	C. CAPACITOR CH 16V 0.01U	1		C4011	ECUX1C104KBV	C. CAPACITOR CH 16V 0.1U	1	
C3086	ECUX1C103KBQ	C. CAPACITOR CH 16V 0.01U	1		C4012	VCSOJJ108	E. CAPACITOR 6.3V 10M	1	
C3087	ECSTOJX226Z	T. CAPACITOR CH6.3V 22U	1		C4013, 14	ECUX1H121JCQ	C. CAPACITOR CH 50V 120P	2	
C3071, 72	ECUX1C104ZFQ	C. CAPACITOR CH 16V 0.01U	2		C4015, 16	VCSOJJ108	E. CAPACITOR 6.3V 10M	2	
C3073-77	ECUX1C103KBQ	C. CAPACITOR CH 16V 0.01U	5		C4201, 02	ECUX1C333KBQ	C. CAPACITOR CH 16V 0.033U	2	
C3078, 79	ECUX1H050CQ	C. CAPACITOR CH 50V 5P	2		C4203	VCSOJJ108	E. CAPACITOR 6.3V 10M	1	
C3080	ECUX1C104KBV	C. CAPACITOR CH 16V 0.1U	1		C4204	ECUX1C103KBQ	C. CAPACITOR CH 16V 0.01U	1	
C3081	ECUX1C103KBQ	C. CAPACITOR CH 16V 0.01U	1		C4205	ECUX1E222KBQ	C. CAPACITOR CH 25V 2200P	1	
C3083, 84	ECSTOJX226Z	T. CAPACITOR CH6.3V 22U	2		C4206	ECUX1C103KBQ	C. CAPACITOR CH 16V 0.01U	1	
C3086	ECUX1C104ZFQ	C. CAPACITOR CH 16V 0.01U	1		C4207	ECUX1C104ZFQ	C. CAPACITOR CH 16V 0.01U	1	
C3088	ECUX1C103KBQ	C. CAPACITOR CH 16V 0.01U	1		C4208	ECUX1E122KBQ	C. CAPACITOR CH 25V 1200P	1	
C3089	EEJKOJS108	E. CAPACITOR 6.3V 10M	1		C4209, 10	ECUM1C474KBN	C. CAPACITOR CH 16V 0.47U	2	
C3090	ECUX1C103KBQ	C. CAPACITOR CH 16V 0.01U	1		C4211	ECUX1E122KBQ	C. CAPACITOR CH 25V 1200P	1	
C3091	ECSTOJX226Z	T. CAPACITOR CH6.3V 22U	1		C4212, 13	ECSTOJX478Z	T. CAPACITOR CH6.3V 47U	2	
C3092	ECUX1A105ZV	C. CAPACITOR CH 10V 1U	1		C4214, 15	ECUX1C104KBV	C. CAPACITOR CH 16V 0.1U	2	
C3094	ECUM1A105KBN	C. CAPACITOR CH 10V 1U	1		C4218	VCSOJJ108	E. CAPACITOR 6.3V 10M	1	
C3096	ECUM1A105KBN	C. CAPACITOR CH 10V 1U	1		C4219	ECUX1C104KBV	C. CAPACITOR CH 16V 0.1U	1	
C3201, 02	ECUX1C103KBQ	C. CAPACITOR CH 16V 0.01U	2		C4501	ECUX1C104KBV	C. CAPACITOR CH 16V 0.1U	1	
C3203, 04	ECUX1C104ZFQ	C. CAPACITOR CH 16V 0.01U	2		C4502	ECUX1C104ZFQ	C. CAPACITOR CH 16V 0.01U	1	
C3205	EEJKOJS108	E. CAPACITOR 6.3V 10M	1		C4503-05	VCSOJJ108	E. CAPACITOR 6.3V 10M	3	
C3206, 07	ECUX1C103KBQ	C. CAPACITOR CH 16V 0.01U	2		C4506	ECUX1C104KBV	C. CAPACITOR CH 16V 0.1U	1	
C3208	ECUX1C104KBV	C. CAPACITOR CH 16V 0.1U	1		C4507	ECUM1A105KBN	C. CAPACITOR CH 10V 1U	1	
C3209-11	ECUX1C103KBQ	C. CAPACITOR CH 16V 0.01U	3		C4508	ECUX1E102KBQ	C. CAPACITOR CH 25V 1000P	1	
C3212, 13	ECUX1C104KBV	C. CAPACITOR CH 16V 0.1U	2		C4509, 10	VCSOJJ108	E. CAPACITOR 6.3V 10M	2	
C3214	ECUX1C104ZFQ	C. CAPACITOR CH 16V 0.01U	1		C4511	ECUM1A105KBN	C. CAPACITOR CH 10V 1U	1	
C3215	EEJKOJS108	E. CAPACITOR 6.3V 10M	1		C4512	ECUX1E102KBQ	C. CAPACITOR CH 25V 1000P	1	
C3216-18	ECUX1C103KBQ	C. CAPACITOR CH 16V 0.01U	3		C4513, 14	VCSOJJ108	E. CAPACITOR 6.3V 10M	2	
C3219	ECUX1E273KBV	C. CAPACITOR CH 25V 0.027U	1		C4515	ECUX1C103KBQ	C. CAPACITOR CH 16V 0.01U	1	
C3220-22	ECUX1C103KBQ	C. CAPACITOR CH 16V 0.01U	3		C4701	ECUX1H390JCV	C. CAPACITOR CH 50V 39P	1	
C3223	ECUM1A105KBN	C. CAPACITOR CH 10V 1U	1		C4702	VCSOJJ108	E. CAPACITOR 6.3V 10M	1	
C3224	EEJKOJS108	E. CAPACITOR 6.3V 10M	1		C4704	ECUX1C104KBV	C. CAPACITOR CH 16V 0.1U	1	
C3225-27	ECUX1C103KBQ	C. CAPACITOR CH 16V 0.01U	3		C4705	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1	
C3228	ECUX1C104KBV	C. CAPACITOR CH 16V 0.1U	1		C4706	ECUX1H153KBV	C. CAPACITOR CH 50V 0.015U	1	
C3229	ECUX1E331KBQ	C. CAPACITOR CH 25V 330P	1		C4708, 99	ECUX1H153KBV	C. CAPACITOR CH 50V 0.015U	2	
C3230	ECUX1C103KBQ	C. CAPACITOR CH 16V 0.01U	1		C8501	ECUX1C104KBV	C. CAPACITOR CH 16V 0.1U	1	
C3231	ECUX1E152KBQ	C. CAPACITOR CH 25V 1500P	1		C8502, 03	ECUX1C108VBP	C. CAPACITOR CH 16V 10U	2	
C3232-34	ECUX1C103KBQ	C. CAPACITOR CH 16V 0.01U	3		C8504	ECEV1CA101UP	E. CAPACITOR CH 16V 100U	1	
C3235	ECUX1E881KBQ	C. CAPACITOR CH 25V 880P	1		C8507	ECUX1C822KBQ	C. CAPACITOR CH 16V 8200P	1	
C3236-38	ECUX1C103KBQ	C. CAPACITOR CH 16V 0.01U	3						
C3239	EEJKOJS108	E. CAPACITOR 6.3V 10M	1		D2001-04	MA728	DIODE	4	
C3240	ECUX1C103KBQ	C. CAPACITOR CH 16V 0.01U	1		D2005	1SS355	DIODE	1	
C3241, 42	ECUX1C104ZFQ	C. CAPACITOR CH 16V 0.01U	2		D2006	MA133	DIODE	1	
C3243-45	ECUX1C103KBQ	C. CAPACITOR CH 16V 0.01U	3		D2007	1SS355	DIODE	1	
C3246	ECUXOJ225KBN	C. CAPACITOR CH8.3V 2.2U	1		D2010	MA728	DIODE	1	
C3247-52	ECUX1C103KBQ	C. CAPACITOR CH 16V 0.01U	6		D2011	MA132WK	DIODE	1	
C3253	EEJKOJS108	E. CAPACITOR 6.3V 10M	1		D2012	MA132WA	DIODE	1	
C3254, 55	ECUX1C104ZFQ	C. CAPACITOR CH 16V 0.01U	2		D2013	MA728	DIODE	1	
C3256	ECUX1C103KBQ	C. CAPACITOR CH 16V 0.01U	1		D2015-18	MA728	DIODE	4	
C3257	EEJKOJS108	E. CAPACITOR 6.3V 10M	1		D2020-22	MA728	DIODE	3	
C3258	ECSTOJX476Z	T. CAPACITOR CH6.3V 47U	1		D2023	1SS355	DIODE	1	
C3259	ECUX1C104ZFQ	C. CAPACITOR CH 16V 0.01U	1		D2024, 25	MA728	DIODE	2	
C3261	ECUX1C104ZFQ	C. CAPACITOR CH 16V 0.01U	1		D3201	MA132WA	DIODE	1	
C3262	ECUX1C103KBQ	C. CAPACITOR CH 16V 0.01U	1		D3202	MA728	DIODE	1	
C3264	EEJKOJS108	E. CAPACITOR 6.3V 10M	1		D4001	MA133	DIODE	1	
C3265	ECUX1H220JCQ	C. CAPACITOR CH 50V 22P	1		D4002	MA728	DIODE	1	
C3802-04	ECUX1C104ZFQ	C. CAPACITOR CH 16V 0.01U	3		D8501-04	MA132WA	DIODE	4	
C3806	ECUX1E102KBQ	C. CAPACITOR CH 25V 1000P	1		D8505	MA132A	DIODE	1	
C3807	ECUX1A105ZV	C. CAPACITOR CH 10V 1U	1		D8506	MA132WA	DIODE	1	
C3808	ECUX1E271KBQ	C. CAPACITOR CH 25V 270P	1						
C3809	ECUX1E102KBQ	C. CAPACITOR CH 25V 1000P	1		FP3201	VJS3320B024	CONNECTOR (FEMALE)	1	
C3813	ECUX1A104KBQ	C. CAPACITOR CH 10V 0.1U	1		FP4001	VJS3319B013	CONNECTOR (FEMALE)	1	
C3814	ECUX1E102KBQ	C. CAPACITOR CH 25V 1000P	1		FP8001	VJS3319B014	CONNECTOR (FEMALE)	1	
C3816	ECUX1E102KBQ	C. CAPACITOR CH 25V 1000P	1		FP8002	VJS3319B018	CONNECTOR (FEMALE)	1	

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Ref.No.	Part No.	Part Name & Description	Pcs	Remarks	Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
IC801, 02	IR3Y35M	IC	2		PP2001	VJP3999A050	CONNECTOR (MALE)	1	
IC803	NJM78L12UA	IC	1		PP3001	VJP3999A060	CONNECTOR (MALE)	1	
IC804	BU4053BCFV	IC	1		PP3002	VJP3999A070	CONNECTOR (MALE)	1	
IC805	PQ20VZ1U	IC	1		PS1001	VJS3846A080	CONNECTOR (FEMALE)	1	
IC806	XC82AP2802M	IC	1		PS3001	VJS3846A030	CONNECTOR (FEMALE)	1	
IC2001	M31020MA107	IC	1		PS3002	VJS3846A080	CONNECTOR (FEMALE)	1	
IC2002	S3511AEFS	IC	1						
IC2003	UPD6482GS626	IC	1		Q801-08	2SB970X	TRANSISTOR	6	
IC2004	S81333HGKF	IC	1		Q808	2SB970X	TRANSISTOR	1	
IC2005	S29L330AFS	IC	1		Q809-11	2SD2216	TRANSISTOR	3	
IC2006	M62370GP	IC	1		Q2001	2SB970X	TRANSISTOR	1	
IC2007	TA75W393FU	IC	1		Q2002	2SB1218	TRANSISTOR	1	
IC2008	TA75S393F	IC	1		Q2003	2SD1820	TRANSISTOR	1	
IC2009	SB1238SG08	IC	1		Q2006	2SD2216	TRANSISTOR	1	
IC2010	XC81AN2901M	IC	1		Q2008	XP8501	TRANSISTOR-RESISTOR	1	
IC2011	D784037GK510	IC	1		Q3001, 02	2SD2216	TRANSISTOR	2	
IC2012	TC4W53FU	IC	1		Q3201	2SD2216	TRANSISTOR	1	
IC2013	MM1320ENRE	IC	1		Q3202	2SB1462-R	TRANSISTOR	1	
IC2014, 15	TC4W53FU	IC	2		Q3203	2SC4627	TRANSISTOR	1	
IC3001	T9P74EF	IC	1		Q3204	2SD2216	TRANSISTOR	1	
IC3002	MN47V07AF	IC	1		Q4001	XN4504	TRANSISTOR-RESISTOR	1	
IC3003	MN67373	IC	1		Q4701	2SD1978	TRANSISTOR	1	
IC3004	BA7653AF	IC	1		Q4702	XP4401	TRANSISTOR-RESISTOR	1	
IC3005	BH7086KV	IC	1						
IC3006	NJM2538VT	IC	1		QR601	MRN1103	TRANSISTOR	1	
IC3007	LZ9FC144	IC	1		QR602	MRN1104	TRANSISTOR	1	
IC3201	M65500FP	IC	1		QR604-06	MRN1103	TRANSISTOR	3	
IC3202	MNV4280	IC	1		QR607	XP4314	TRANSISTOR-RESISTOR	1	
IC3203	AN3741FAP	IC	1		QR2001	MRN2111	TRANSISTOR	1	
IC3204	AD9057BRS	IC	1		QR2002, 03	XP4213	TRANSISTOR-RESISTOR	2	
IC3205	TC7SH08FU	IC	1		QR2004	MRN2111	TRANSISTOR	1	
IC3801	TSB13LV01AGB	IC	1		QR2005	UN2130X	TRANSISTOR-RESISTOR	1	
IC4001	NJM3414AVT	IC	1		QR2006	MRN2111	TRANSISTOR	1	
IC4201	BA7785FS	IC	1		QR2007	MRN1104	TRANSISTOR	1	
IC4501	AK4513-VQ	IC	1		QR2008	XP1213	TRANSISTOR-RESISTOR	1	
IC4701	M8802-208GAK	IC	1		QR2009, 10	MRN2111	TRANSISTOR	2	
IC8501-03	TC7W241FU	IC	3		QR2011	MRN1104	TRANSISTOR	1	
IC8505, 06	TC7SH08FU	IC	2		QR2012, 13	MRN1103	TRANSISTOR	2	
					QR3001	MRN1103	TRANSISTOR	1	
JK3801	VJJ0568	DV JACK	1		QR4001	MRN1103	TRANSISTOR	1	
					QR4002, 03	MRN2103	TRANSISTOR	2	
L601-03	VLQ0807K100	COIL	10UH	3	QR4201	MRN1103	TRANSISTOR	1	
L605	VLQ0807K100	COIL	10UH	1	QR4703	XP4312	TRANSISTOR-RESISTOR	1	
L606, 07	VLQ0807K220	COIL	22UH	2					
L2001	VLQ0807K100	COIL	10UH	1	R507-12	ERJ26EJ102	M. RESISTOR CH	2W 1K	6
L2002	VLQ0426J330	COIL	33UH	1	R513	ERJ26E0R00	M. RESISTOR CH	2W 0	1
L2003	VLQ0807K100	COIL	10UH	1	R521	ERJ26EJ223	M. RESISTOR CH	2W 22K	1
L3002	VLQ0426J5R8	COIL	5.6UH	1	R522	ERJ26EJ273	M. RESISTOR CH	2W 27K	1
L3003, 04	VLQ0807K100	COIL	10UH	2	R523	ERJ26EJ223	M. RESISTOR CH	2W 22K	1
L3005	VLQ0807K220	COIL	22UH	1	R524	ERJ26EJ332	M. RESISTOR CH	2W 3.3K	1
L3006	VLQ0807K100	COIL	10UH	1	R525	ERJ26EJ223	M. RESISTOR CH	2W 22K	1
L3008	VLQ0807K100	COIL	10UH	1	R526	ERJ26EJ153	M. RESISTOR CH	2W 15K	1
L3009	VLQ0426J100	COIL	10UH	1	R527-32	ERJ26EJ473	M. RESISTOR CH	2W 47K	6
L3010, 11	VLQ0807K100	COIL	10UH	2	R800, 01	ERJ26EJ102	M. RESISTOR CH	2W 1K	2
L3201	VLQ0807K100	COIL	10UH	1	R802, 03	ERJ2RHD102	M. RESISTOR CH	2W 1K	2
L3202	VLQ0807M4R7	COIL	4.7UH	1	R804	ERJ2RHD272	M. RESISTOR CH	2W 2.7K	1
L3203-07	VLQ0807K100	COIL	10UH	5	R805	ERJ26EJ102	M. RESISTOR CH	2W 1K	1
L3208	VLQ0807K220	COIL	22UH	1	R806	ERJ26EJ223	M. RESISTOR CH	2W 22K	1
L3209	VLQ0807M4R7	COIL	4.7UH	1	R807	ERJ26EJ222	M. RESISTOR CH	2W 2.2K	1
L3801-03	VLQ0807K100	COIL	10UH	3	R808	ERJ26EJ273	M. RESISTOR CH	2W 27K	1
L3901	VLQ0807K220	COIL	22UH	1	R809, 10	ERJ26EJ223	M. RESISTOR CH	2W 22K	2
L4001	VLQ0807K100	COIL	10UH	1	R811	ERJ26EJ393	M. RESISTOR CH	2W 39K	1
L4201	VLQ0807K100	COIL	10UH	1	R812	ERJ26EJ223	M. RESISTOR CH	2W 22K	1
L4202	VLQ0484K100	COIL	10UH	1	R813	ERJ26EJ222	M. RESISTOR CH	2W 2.2K	1
L4502	VLQ0807K100	COIL	10UH	1	R814, 15	ERJ26EJ102	M. RESISTOR CH	2W 1K	2
L6501	VLQ0807K100	COIL	10UH	1	R816	ERJ26EJ103	M. RESISTOR CH	2W 10K	1
L6502	VLQ0807K220	COIL	22UH	1	R817	ERJ26EJ562	M. RESISTOR CH	2W 5.6K	1
					R819	ERJ26EJ332	M. RESISTOR CH	2W 3.3K	1
LB3001-03	VLP0145	COIL		3	R821	ERJ26EJ223	M. RESISTOR CH	2W 22K	1
LB3004	VLP0155	COIL		1	R822	ERJ26EJ332	M. RESISTOR CH	2W 3.3K	1
LB3005, 06	VLP0328A601	COIL	800UH	2	R823	ERJ26EJ223	M. RESISTOR CH	2W 22K	1
LB3007	VLP0328A241	COIL	240UH	1	R824	ERJ26E0R00	M. RESISTOR CH	2W 0	1
					R825	ERJ26EJ562	M. RESISTOR CH	2W 5.6K	1
P3001	VJP3172D002	CONNECTOR (MALE)	1						

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Ref. No.	Part No.	Part Name & Description	Pcs	Remarks	Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R626	ERJ2GEJ223	M. RESISTOR CH 2W 22K	1		R2052	ERJ2GEOR00	M. RESISTOR CH 2W 0	1	
R629	ERJ2GEJ223	M. RESISTOR CH 2W 22K	1		R2053	ERJ2GEJ331	M. RESISTOR CH 2W 330	1	
R631	ERJ2GEOR00	M. RESISTOR CH 2W 0	1		R2054	ERJ2GEJ822	M. RESISTOR CH 2W 8.2K	1	
R634	ERJ2GEJ183	M. RESISTOR CH 2W 18K	1		R2055, 56	ERJ2GEJ473	M. RESISTOR CH 2W 47K	2	
R635-37	ERJ2GEJ223	M. RESISTOR CH 2W 22K	3		R2057	ERJ2GEJ822	M. RESISTOR CH 2W 8.2K	1	
R638	ERJ2GEJ102	M. RESISTOR CH 2W 1K	1		R2058	ERJ2GEJ102	M. RESISTOR CH 2W 1K	1	
R639	ERJ2GEJ333	M. RESISTOR CH 2W 33K	1		R2059	ERJ2GEJ473	M. RESISTOR CH 2W 47K	1	
R640	ERJ2GEOR00	M. RESISTOR CH 2W 0	1		R2060	ERJ2RHD273	M. RESISTOR CH 2W 27K	1	
R642	ERJ2GEOR00	M. RESISTOR CH 2W 0	1		R2061	ERJ2RHD103	M. RESISTOR CH 2W 10K	1	
R644-46	ERJ2GEJ223	M. RESISTOR CH 2W 22K	3		R2062, 63	ERJ2RHD473	M. RESISTOR CH 2W 47K	2	
R647	ERJ2GEOR00	M. RESISTOR CH 2W 0	1		R2064	ERJ2RHD273	M. RESISTOR CH 2W 27K	1	
R648-50	ERJ2GEJ101	M. RESISTOR CH 2W 100	3		R2065	ERJ2RHD103	M. RESISTOR CH 2W 10K	1	
R651, 52	ERJ2GEJ683	M. RESISTOR CH 2W 68K	2		R2066	ERJ2GEJ473	M. RESISTOR CH 2W 47K	1	
R653	ERJ2GEOR00	M. RESISTOR CH 2W 0	1		R2067, 68	ERJ2GEJ101	M. RESISTOR CH 2W 100	2	
R656-58	ERJ2GEJ102	M. RESISTOR CH 2W 1K	3		R2069	ERJ2GEJ105	M. RESISTOR CH 2W 1M	1	
R659	ERJ2GEJ582	M. RESISTOR CH 2W 5.6K	1		R2070	ERJ2GEJ273	M. RESISTOR CH 2W 27K	1	
R661	ERJ2GEJ472	M. RESISTOR CH 2W 4.7K	1		R2072	ERJ2GEJ473	M. RESISTOR CH 2W 47K	1	
R663	ERJ2GEJ472	M. RESISTOR CH 2W 4.7K	1		R2073, 74	ERJ2GEJ103	M. RESISTOR CH 2W 10K	2	
R664	ERJ2RHD821	M. RESISTOR CH 2W 820	1		R2076, 77	ERJ2GEJ272	M. RESISTOR CH 2W 2.7K	2	
R665	ERJ2RHD223	M. RESISTOR CH 2W 22K	1		R2078, 79	ERJ2GEJ103	M. RESISTOR CH 2W 10K	2	
R666	ERJ2GEOR00	M. RESISTOR CH 2W 0	1		R2080	ERJ2RHD563	M. RESISTOR CH 2W 56K	1	
R667	ERJ2RHD472	M. RESISTOR CH 2W 4.7K	1		R2081	ERJ2GEJ122	M. RESISTOR CH 2W 1.2K	1	
R673	ERJ2GEOR00	M. RESISTOR CH 2W 0	1		R2082	ERJ2GEJ222	M. RESISTOR CH 2W 2.2K	1	
R674	ERJ2GEJ223	M. RESISTOR CH 2W 22K	1		R2083	ERJ2GEOR00	M. RESISTOR CH 2W 0	1	
R675	ERJ2GEJ103	M. RESISTOR CH 2W 10K	1		R2085	ERJ2GEJ122	M. RESISTOR CH 2W 1.2K	1	
R680	ERJ2GEJ223	M. RESISTOR CH 2W 22K	1		R2087	ERJ2GEJ103	M. RESISTOR CH 2W 10K	1	
R681	ERJ2GEOR00	M. RESISTOR CH 2W 0	1		R2088	ERJ2GEJ473	M. RESISTOR CH 2W 47K	1	
R682	ERJ2GEJ333	M. RESISTOR CH 2W 33K	1		R2089	ERJ2GEJ122	M. RESISTOR CH 2W 1.2K	1	
R683	ERJ2GEOR00	M. RESISTOR CH 2W 0	1		R2090, 91	ERJ2GEJ473	M. RESISTOR CH 2W 47K	2	
R685	ERJ2GEOR00	M. RESISTOR CH 2W 0	1		R2092	ERJ2GEJ223	M. RESISTOR CH 2W 22K	1	
R690	ERJ2GEOR00	M. RESISTOR CH 2W 0	1		R2093	ERJ2GEJ102	M. RESISTOR CH 2W 1K	1	
R691-93	ERJ2GEJ101	M. RESISTOR CH 2W 100	3		R2095	ERJ2GEOR00	M. RESISTOR CH 2W 0	1	
R694, 95	ERJ2GEJ683	M. RESISTOR CH 2W 68K	2		R2096	ERJ2GEJ102	M. RESISTOR CH 2W 1K	1	
R696	ERJ2GEOR00	M. RESISTOR CH 2W 0	1		R2097	ERJ2GEOR00	M. RESISTOR CH 2W 0	1	
R697-99	ERJ2GEJ102	M. RESISTOR CH 2W 1K	3		R2098-04	ERJ2GEJ473	M. RESISTOR CH 2W 47K	7	
R2002	ERJ2GEJ105	M. RESISTOR CH 2W 1M	1		R2106	ERJ2GEJ473	M. RESISTOR CH 2W 47K	1	
R2003	ERJ2GEJ22	M. RESISTOR CH 2W 200	1		R2107	ERJ2GEJ103	M. RESISTOR CH 2W 10K	1	
R2004, 05	ERJ2GEJ102	M. RESISTOR CH 2W 1K	2		R2108	ERJ2GEJ101	M. RESISTOR CH 2W 100	1	
R2006, 07	ERJ2GEJ103	M. RESISTOR CH 2W 10K	2		R2109	ERJ2GEJ473	M. RESISTOR CH 2W 47K	1	
R2008	ERJ2GEJ104	M. RESISTOR CH 2W 100K	1		R2110	ERJ2GEJ101	M. RESISTOR CH 2W 100	1	
R2009	ERJ2GEJ394	M. RESISTOR CH 2W 390K	1		R2113	ERJ2GEJ582	M. RESISTOR CH 2W 5.6K	1	
R2011	ERJ2GEJ583	M. RESISTOR CH 2W 58K	1		R2114, 15	ERJ2GEJ101	M. RESISTOR CH 2W 100	2	
R2012	ERJ2GEJ102	M. RESISTOR CH 2W 1K	1		R2116	ERJ2GEJ582	M. RESISTOR CH 2W 5.6K	1	
R2013	ERJ2GEJ684	M. RESISTOR CH 2W 680K	1		R2117	ERJ2GEJ392	M. RESISTOR CH 2W 3.9K	1	
R2014	ERJ2GEJ474	M. RESISTOR CH 2W 470K	1		R2118	ERJ2GEJ472	M. RESISTOR CH 2W 4.7K	1	
R2015	ERJ2GEJ473	M. RESISTOR CH 2W 47K	1		R2119	ERJ2GEJ272	M. RESISTOR CH 2W 2.7K	1	
R2016	ERJ2GEJ583	M. RESISTOR CH 2W 58K	1		R2121	ERJ2GEJ333	M. RESISTOR CH 2W 33K	1	
R2017, 18	ERJ2GEJ473	M. RESISTOR CH 2W 47K	2		R2122	ERJ2GEJ223	M. RESISTOR CH 2W 22K	1	
R2019, 20	ERJ2GEJ104	M. RESISTOR CH 2W 100K	2		R2123	ERJ2GEJ102	M. RESISTOR CH 2W 1K	1	
R2021	ERJ2GEJ222	M. RESISTOR CH 2W 2.2K	1		R2124, 25	ERJ2GEJ223	M. RESISTOR CH 2W 22K	2	
R2022	ERJ2GEJ332	M. RESISTOR CH 2W 3.3K	1		R2126	ERJ2GEJ104	M. RESISTOR CH 2W 100K	1	
R2023	ERJ2GEJ393	M. RESISTOR CH 2W 39K	1		R2127	ERJ2GEJ473	M. RESISTOR CH 2W 47K	1	
R2024	ERJ2GEJ223	M. RESISTOR CH 2W 22K	1		R2128	ERJ2GEJ102	M. RESISTOR CH 2W 1K	1	
R2025	ERJ2GEJ582	M. RESISTOR CH 2W 5.6K	1		R2129	ERJ2GEJ473	M. RESISTOR CH 2W 47K	1	
R2026	ERJ2GEJ101	M. RESISTOR CH 2W 100	1		R2130	ERJ2GEOR00	M. RESISTOR CH 2W 0	1	
R2027	ERJ88EY6330	M. RESISTOR CH 1/8W 33	1		R2133	ERJ2GEJ103	M. RESISTOR CH 2W 10K	1	
R2028	ERJ2GEJ681	M. RESISTOR CH 2W 680	1		R2134	ERJ2GEJ223	M. RESISTOR CH 2W 22K	1	
R2029	ERJ2GEJ473	M. RESISTOR CH 2W 47K	1		R2135	ERJ2GEJ582	M. RESISTOR CH 2W 5.6K	1	
R2031	ERJ2GEJ102	M. RESISTOR CH 2W 1K	1		R2136-38	ERJ2GEJ273	M. RESISTOR CH 2W 27K	3	
R2033	ERJ2GEJ104	M. RESISTOR CH 2W 100K	1		R2139	ERJ2GEJ681	M. RESISTOR CH 2W 680	1	
R2034	ERJ2GEJ123	M. RESISTOR CH 2W 12K	1		R2140	ERJ2GEJ103	M. RESISTOR CH 2W 10K	1	
R2035	ERJ2RHD183	M. RESISTOR CH 2W 18K	1		R2141, 42	ERJ2GEJ473	M. RESISTOR CH 2W 47K	2	
R2036	ERJ2GEJ331	M. RESISTOR CH 2W 330	1		R2143	ERJ2GEOR00	M. RESISTOR CH 2W 0	1	
R2037	ERJ2RHD223	M. RESISTOR CH 2W 22K	1		R2199	ERJ2GEJ104	M. RESISTOR CH 2W 100K	1	
R2038	ERJ2GEJ223	M. RESISTOR CH 2W 22K	1		R3001, 02	ERJ2GEOR00	M. RESISTOR CH 2W 0	2	
R2039	ERJ2RHD333	M. RESISTOR CH 2W 33K	1		R3003, 04	ERJ2GEJ102	M. RESISTOR CH 2W 1K	2	
R2040	ERJ2GEJ101	M. RESISTOR CH 2W 100	1		R3005	ERJ2GEOR00	M. RESISTOR CH 2W 0	1	
R2041	ERJ2GEJ222	M. RESISTOR CH 2W 2.2K	1		R3006	ERJ2GEJ104	M. RESISTOR CH 2W 100K	1	
R2042	ERJ2GEJ101	M. RESISTOR CH 2W 100	1		R3008	ERJ2GEJ102	M. RESISTOR CH 2W 1K	1	
R2043, 44	ERJ2GEJ473	M. RESISTOR CH 2W 47K	2		R3009	ERJ2GEOR00	M. RESISTOR CH 2W 0	1	
R2045	ERJ2GEJ331	M. RESISTOR CH 2W 330	1		R3010	ERJ2GEJ102	M. RESISTOR CH 2W 1K	1	
R2046	ERJ2GEOR00	M. RESISTOR CH 2W 0	1		R3011, 12	ERJ2GEJ223	M. RESISTOR CH 2W 22K	2	
R2047	ERJ2GEJ102	M. RESISTOR CH 2W 1K	1		R3013	ERJ2GEJ102	M. RESISTOR CH 2W 1K	1	
R2048	ERJ2GEJ473	M. RESISTOR CH 2W 47K	1		R3014	ERJ2GEOR00	M. RESISTOR CH 2W 0	1	
R2049, 50	ERJ2GEOR00	M. RESISTOR CH 2W 0	2		R3016	ERJ2GEJ101	M. RESISTOR CH 2W 100	1	

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Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R3017-19	ERJ2GEJ103	M. RESISTOR CH 2W 10K	3	
R3020	ERJ2GEJ102	M. RESISTOR CH 2W 1K	1	
R3022	ERJ2GEJ121	M. RESISTOR CH 2W 120	1	
R3023	ERJ2GEJ682	M. RESISTOR CH 2W 6.8K	1	
R3024	ERJ2GEJ332	M. RESISTOR CH 2W 3.3K	1	
R3027	ERJ2GEJ223	M. RESISTOR CH 2W 22K	1	
R3028	ERJ2GEJ183	M. RESISTOR CH 2W 18K	1	
R3030	ERJ2GEJ123	M. RESISTOR CH 2W 12K	1	
R3031	ERJ2GEJ153	M. RESISTOR CH 2W 15K	1	
R3032	ERJ2GEJ123	M. RESISTOR CH 2W 12K	1	
R3033	ERJ2GEJ153	M. RESISTOR CH 2W 15K	1	
R3034	ERJ2GEJ102	M. RESISTOR CH 2W 1K	1	
R3035	ERJ3GEYOR00	M. RESISTOR CH 1/16W	0	
R3036	ERJ2GEJ225	M. RESISTOR CH 2W 2.2M	1	
R3037	ERJ2GEJ103	M. RESISTOR CH 2W 10K	1	
R3038, 39	ERJ2GEJ105	M. RESISTOR CH 2W 1M	2	
R3041	ERJ2GEJ151	M. RESISTOR CH 2W 150	1	
R3042	ERJ2GEJ105	M. RESISTOR CH 2W 1M	1	
R3044	ERJ2GEJ221	M. RESISTOR CH 2W 220	1	
R3046	ERJ2GEOR00	M. RESISTOR CH 2W 0	1	
R3048, 49	ERJ2GEJ221	M. RESISTOR CH 2W 220	2	
R3050, 61	ERJ2GEJ471	M. RESISTOR CH 2W 470	2	
R3052	ERJ2GEJ105	M. RESISTOR CH 2W 1M	1	
R3053	ERJ2GEOR00	M. RESISTOR CH 2W 0	1	
R3054	ERJ2GEJ105	M. RESISTOR CH 2W 1M	1	
R3055, 56	ERJ2GEOR00	M. RESISTOR CH 2W 0	2	
R3057	ERJ2GEJ224	M. RESISTOR CH 2W 220K	1	
R3058	ERJ2GEJ103	M. RESISTOR CH 2W 10K	1	
R3059	ERJ2GEJ680	M. RESISTOR CH 2W 68	1	
R3060	ERJ2GEJ271	M. RESISTOR CH 2W 270	1	
R3061	ERJ2GEOR00	M. RESISTOR CH 2W 0	1	
R3062	ERJ2GEJ103	M. RESISTOR CH 2W 10K	1	
R3075	ERJ2GEJ103	M. RESISTOR CH 2W 10K	1	
R3076	ERJ2GEJ104	M. RESISTOR CH 2W 100K	1	
R3078	ERJ2GEJ223	M. RESISTOR CH 2W 22K	1	
R3079	ERJ2GEJ101	M. RESISTOR CH 2W 100	1	
R3083	ERJ2GEJ121	M. RESISTOR CH 2W 120	1	
R3085	ERJ2GEJ121	M. RESISTOR CH 2W 120	1	
R3086	ERJ2GEJ682	M. RESISTOR CH 2W 6.8K	1	
R3090, 91	ERJ2GEJ392	M. RESISTOR CH 2W 3.9K	2	
R3094	ERJ2GEJ391	M. RESISTOR CH 2W 390	1	
R3203	ERJ2GEJ582	M. RESISTOR CH 2W 5.8K	1	
R3204	ERJ2GEJ102	M. RESISTOR CH 2W 1K	1	
R3205	ERJ2RHD222	M. RESISTOR CH 2W 2.2M	1	
R3206, 07	ERJ2GEJ121	M. RESISTOR CH 2W 120	2	
R3208	ERJ2GEJ822	M. RESISTOR CH 2W 8.2K	1	
R3209	ERJ2GEJ582	M. RESISTOR CH 2W 5.8K	1	
R3210	ERJ2GEJ581	M. RESISTOR CH 2W 580	1	
R3211	ERJ2GEJ680	M. RESISTOR CH 2W 68	1	
R3212	ERJ2GEOR00	M. RESISTOR CH 2W 0	1	
R3213	ERJ2GEJ682	M. RESISTOR CH 2W 6.8K	1	
R3214	ERJ2GEJ102	M. RESISTOR CH 2W 1K	1	
R3215	ERJ2GEJ392	M. RESISTOR CH 2W 3.9K	1	
R3217	ERJ2RHD181	M. RESISTOR CH 2W 180	1	
R3218	ERJ2RHD301	M. RESISTOR CH 2W 300	1	
R3219	ERJ2GEOR00	M. RESISTOR CH 2W 0	1	
R3220	ERJ2GEJ221	M. RESISTOR CH 2W 220	1	
R3221	ERJ2RHD222	M. RESISTOR CH 2W 2.2M	1	
R3222	ERJ2GEJ152	M. RESISTOR CH 2W 1.5K	1	
R3223	ERJ2GEJ124	M. RESISTOR CH 2W 120K	1	
R3224	ERJ2GEJ582	M. RESISTOR CH 2W 5.8K	1	
R3225	ERJ2GEJ101	M. RESISTOR CH 2W 100	1	
R3226	ERJ2GEJ391	M. RESISTOR CH 2W 390	1	
R3227, 28	ERJ2GEJ224	M. RESISTOR CH 2W 220K	2	
R3229	ERJ3GEYOR00	M. RESISTOR CH 1/16W	0	
R3230	ERJ2GEJ121	M. RESISTOR CH 2W 120	1	
R3231	ERJ2GEOR00	M. RESISTOR CH 2W 0	1	
R3232	ERJ2GEJ103	M. RESISTOR CH 2W 10K	1	
R3233	ERJ2GEJ331	M. RESISTOR CH 2W 330	1	
R3234	ERJ2GEJ103	M. RESISTOR CH 2W 10K	1	
R3235-37	ERJ2GEJ392	M. RESISTOR CH 2W 3.9K	3	
R3238	ERJ2GEJ584	M. RESISTOR CH 2W 580K	1	
R3239	ERJ2GEJ583	M. RESISTOR CH 2W 58K	1	
R3240	ERJ2GEJ472	M. RESISTOR CH 2W 4.7K	1	
R3241	ERJ2GEJ392	M. RESISTOR CH 2W 3.9K	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R3242	ERJ2GEJ104	M. RESISTOR CH 2W 100K	1	
R3243-45	ERJ2GEJ392	M. RESISTOR CH 2W 3.9K	3	
R3247	ERJ2GEJ152	M. RESISTOR CH 2W 1.5K	1	
R3248	ERJ2GEJ103	M. RESISTOR CH 2W 10K	1	
R3249	ERJ2GEJ223	M. RESISTOR CH 2W 22K	1	
R3251	ERJ2GEJ473	M. RESISTOR CH 2W 47K	1	
R3252	ERJ2RHD391	M. RESISTOR CH 2W 390	1	
R3254	ERJ2GEOR00	M. RESISTOR CH 2W 0	1	
R3255	ERJ2GEJ683	M. RESISTOR CH 2W 68K	1	
R3801	ERJ2GEJ103	M. RESISTOR CH 2W 10K	1	
R3803	ERJ2GEOR00	M. RESISTOR CH 2W 0	1	
R3804	ERJ2GEJ103	M. RESISTOR CH 2W 10K	1	
R3805	ERJ2GEJ472	M. RESISTOR CH 2W 4.7K	1	
R3806	ERJ2GEJ394	M. RESISTOR CH 2W 390K	1	
R3807	ERJ2RHD272	M. RESISTOR CH 2W 2.7K	1	
R3809	ERJ2GEJ103	M. RESISTOR CH 2W 10K	1	
R3811-14	ERJ2RKD560	M. RESISTOR CH 2W 56	4	
R3815	ERJ2RHD332	M. RESISTOR CH 2W 3.3K	1	
R3816	ERJ2GEJ391	M. RESISTOR CH 2W 390	1	
R3834	ERJ2GEJ103	M. RESISTOR CH 2W 10K	1	
R3841, 42	ERJ2GEJ103	M. RESISTOR CH 2W 10K	2	
R3844	ERJ2GEJ104	M. RESISTOR CH 2W 100K	1	
R3845	ERJ2GEJ270	M. RESISTOR CH 2W 27	1	
R4001, 02	ERJ2RHD273	M. RESISTOR CH 2W 27K	2	
R4003, 04	ERJ2RHD822	M. RESISTOR CH 2W 8.2K	2	
R4011, 12	ERJ2RHD103	M. RESISTOR CH 2W 10K	2	
R4013, 14	ERJ2RHD223	M. RESISTOR CH 2W 22K	2	
R4015, 16	ERJ2GEJ273	M. RESISTOR CH 2W 27K	2	
R4017, 18	ERJ2GEJ101	M. RESISTOR CH 2W 100	2	
R4021	ERJ2GEJ124	M. RESISTOR CH 2W 120K	1	
R4022	ERJ2GEJ681	M. RESISTOR CH 2W 680	1	
R4201, 02	ERJ2GEJ682	M. RESISTOR CH 2W 6.8K	2	
R4203, 04	ERJ2GEJ103	M. RESISTOR CH 2W 10K	2	
R4205	ERJ2GEOR00	M. RESISTOR CH 2W 0	1	
R4211	ERJ2GEJ473	M. RESISTOR CH 2W 47K	1	
R4501	ERJ2GEJ100	M. RESISTOR CH 2W 10	1	
R4502, 03	ERJ2RHD471	M. RESISTOR CH 2W 470	2	
R4504	ERJ2GEJ102	M. RESISTOR CH 2W 1K	1	
R4506, 07	ERJ2GEOR00	M. RESISTOR CH 2W 0	2	
R4701	ERJ2GEJ154	M. RESISTOR CH 2W 150K	1	
R4702	ERJ2RHD223	M. RESISTOR CH 2W 22K	1	
R4704	ERJ2GEJ392	M. RESISTOR CH 2W 3.9K	1	
R4705	ERJ2GEJ331	M. RESISTOR CH 2W 330	1	
R4707	ERJ2GEJ102	M. RESISTOR CH 2W 1K	1	
R4708	ERJ2GEJ223	M. RESISTOR CH 2W 22K	1	
R4709	ERJ2GEJ102	M. RESISTOR CH 2W 1K	1	
R4710	ERJ2GEJ223	M. RESISTOR CH 2W 22K	1	
R4711, 12	ERJ2GEJ182	M. RESISTOR CH 2W 1.8K	2	
R4798	ERJ2GEJ154	M. RESISTOR CH 2W 150K	1	
R4799	ERJ2GEJ583	M. RESISTOR CH 2W 58K	1	
R6503	ERJ8GEYOR00	M. RESISTOR CH 1/8W	0	
R6504	ERJ2GEOR00	M. RESISTOR CH 2W 0	1	
R6505, 06	ERJ2GEJ472	M. RESISTOR CH 2W 4.7K	2	
R6510	ERJ2GEOR00	M. RESISTOR CH 2W 0	1	
R6515	ERJ2GEJ472	M. RESISTOR CH 2W 4.7K	1	
RA2001	EXB28V102J	COMBI. R-R	1K	1
RA2002	EXB24V102J	COMBI. R-R	1K	1
RA2003	EXB28V473J	COMBI. R-R	47K	1
RA2005-08	EXB28V103J	COMBI. R-R	10K	4
RA2011	EXB24V102J	COMBI. R-R	1K	1
RA2012	EXB28V473J	COMBI. R-R	47K	1
RA2013	EXB24V331J	COMBI. R-R	330	1
RA2014	EXB24V271J	COMBI. R-R	270	1
RA2016	EXB24V102J	COMBI. R-R	1K	1
RA2018	EXB24V332J	COMBI. R-R	3.3K	1
RA2023	EXB28V102J	COMBI. R-R	1K	1
RA2024	EXB24V472J	COMBI. R-R	4.7K	1
RA3803-05	EXB24V103J	COMBI. R-R	10K	3
RA3806, 07	EXB28V103J	COMBI. R-R	10K	2
RA3808, 09	EXB24V103J	COMBI. R-R	10K	2
RA4001	EXB24V582J	COMBI. R-R	5.8K	1
W602	ERJ2GEOR00	M. RESISTOR CH 2W	0	1
W604, 05	ERJ2GEOR00	M. RESISTOR CH 2W	0	2

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Ref. No.	Part No.	Part Name & Description	Pcs	Remarks	Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R367	ERJ2GEJ102	M. RESISTOR CH 2W 1K	1		TH701	VRT0147J683	THERMISTOR	1	
R387, 88	ERJ2GEOR00	M. RESISTOR CH 2W 0	2		TH702	VRT0147J334	THERMISTOR	1	
R389, 90	ERJ2GEJ102	M. RESISTOR CH 2W 1K	2		TH703	VRT0147J103	THERMISTOR	1	
R391	ERJ2GEOR00	M. RESISTOR CH 2W 0	1						
R413	ERJ2GEOR00	M. RESISTOR CH 2W 0	1		W302	ERJ3GEY0R00	M. RESISTOR CH 1/16W	0	1
R471	ERJ2GEOR00	M. RESISTOR CH 2W 0	1		W305	ERJ2GEOR00	M. RESISTOR CH 2W	0	1
R701, 02	ERJ3GEYJ3R3	M. RESISTOR CH 1/16W 3.3	2						
R703	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1		X301	VSX0896	CRYSTAL OSCILLATOR	1	
R704	ERJ2GEJ333	M. RESISTOR CH 2W 33K	1						
R705-07	ERJ2GEJ272	M. RESISTOR CH 2W 2.7K	3						
R708, 09	ERJ2GEJ473	M. RESISTOR CH 2W 47K	2				MISCELLANEOUS		
R710	ERJ2GEJ103	M. RESISTOR CH 2W 10K	1						
R711	ERJ2GEJ153	M. RESISTOR CH 2W 15K	1			VGQ4776	BARRIER	1	
R712	ERJ3RED124	M. RESISTOR CH 3W 120K	1						
R713, 14	ERJ2RHD472	M. RESISTOR CH 2W 4.7K	2						
R715	ERJ3RED124	M. RESISTOR CH 3W 120K	1						
R716	ERJ2GEOR00	M. RESISTOR CH 2W 0	1						
R717, 18	ERJ6RBB472	M. RESISTOR CH 1/10W 4.7K	2						
R719, 20	ERJ2GEJ153	M. RESISTOR CH 2W 15K	2			■ VEP20737B	CAMERA OPERATION P.C. BOARD	1	(RTL)
R721	ERJ2GEJ221	M. RESISTOR CH 2W 220	1						
R722	ERJ2GEJ472	M. RESISTOR CH 2W 4.7K	1						
R723	ERJ2GEJ103	M. RESISTOR CH 2W 10K	1						
R724	ERJ2GEJ104	M. RESISTOR CH 2W 100K	1			SW6501	VSS0348	SWITCH	1
R725	ERJ2GEJ152	M. RESISTOR CH 2W 1.5K	1			SW6502-04	EVQGW101M	SWITCH	3
R726	ERJ2GEJ184	M. RESISTOR CH 2W 180K	1			SW6505	VSR0226	SWITCH	1
R727	ERJ2GEJ821	M. RESISTOR CH 2W 820	1						
R728	ERJ2GEJ223	M. RESISTOR CH 2W 22K	1						
R729	ERJ2GEJ392	M. RESISTOR CH 2W 3.9K	1						
R730	ERJ2GEJ682	M. RESISTOR CH 2W 6.8K	1						
R731	ERJ2GEJ274	M. RESISTOR CH 2W 270K	1			■ VEP28240D	E.V.F. (A) P.C. BOARD	1	(RTL)
R732	ERJ2GEJ332	M. RESISTOR CH 2W 3.3K	1						
R733	ERJ2GEJ274	M. RESISTOR CH 2W 270K	1						
R734	ERJ2GEJ394	M. RESISTOR CH 2W 390K	1			BL881	VLL0203	BACK LIGHT	1
R735, 36	ERJ2GEJ333	M. RESISTOR CH 2W 33K	2						
R737	ERJ2GEJ684	M. RESISTOR CH 2W 680K	1			Q881	2SK1299	TRANSISTOR	1
R738	ERJ2GEJ153	M. RESISTOR CH 2W 15K	1						
R739	ERJ2GEJ392	M. RESISTOR CH 2W 3.9K	1			R881	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1
R740	ERJ2GEJ473	M. RESISTOR CH 2W 47K	1						
R741	ERJ2GEJ224	M. RESISTOR CH 2W 220K	1			T881	ETJ09K31AM	TRANSFORMER	1
R742	ERJ2GEJ153	M. RESISTOR CH 2W 15K	1						
R743, 44	ERJ2RHD153	M. RESISTOR CH 2W 15K	2						
R746	ERJ6RQF1R8	M. RESISTOR CH 1/10W 1.8K	1						
R747	ERJ2GEJ104	M. RESISTOR CH 2W 100K	1						
R748	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1						
R750	ERJ2GEJ222	M. RESISTOR CH 2W 2.2K	1						
R751	ERJ2GEJ682	M. RESISTOR CH 2W 6.8K	1						
R752	ERJ2GEJ102	M. RESISTOR CH 2W 1K	1						
R753	ERJ2GEJ222	M. RESISTOR CH 2W 2.2K	1						
R754	ERJ2GEJ473	M. RESISTOR CH 2W 47K	1			■ VEP28244B	E.V.F. (B) P.C. BOARD	1	(RTL)
R755	ERJ2GEJ222	M. RESISTOR CH 2W 2.2K	1						
R756, 57	ERJ2GEJ103	M. RESISTOR CH 2W 10K	2						
R758	ERJ2GEJ104	M. RESISTOR CH 2W 100K	1						
R759	ERJ2GEJ183	M. RESISTOR CH 2W 18K	1			C801	ECUM1A335KBP	C. CAPACITOR CH 10V 33U	1
R760	ERJ2GEJ393	M. RESISTOR CH 2W 39K	1			C802	ECGC1BB150	C. CAPACITOR 12V 15P	1
R762, 63	ERJ2RHD272	M. RESISTOR CH 2W 2.7K	2			C827	ECUX1H102KBV	C. CAPACITOR CH 50V 1000P	1
R764, 65	ERJ2RHD122	M. RESISTOR CH 2W 1.2K	2			C829	ECUX1C104KBV	C. CAPACITOR CH 16V 0.1U	1
R766	ERJ2RHD272	M. RESISTOR CH 2W 2.7K	1			C830	ECUX1H470JCV	C. CAPACITOR CH 50V 47P	1
R767	ERJ2RHD122	M. RESISTOR CH 2W 1.2K	1			C832	ECUX1H472KBV	C. CAPACITOR CH 50V 4700P	1
R768	ERJ2GEJ102	M. RESISTOR CH 2W 1K	1			C833	ECST1CY225Z	T. CAPACITOR CH 16V 2.2U	1
R769	ERJ2GEJ474	M. RESISTOR CH 2W 470K	1			C834-37	ECUX1C104KBV	C. CAPACITOR CH 16V 0.1U	4
R775	ERJ2GEJ184	M. RESISTOR CH 2W 180K	1			C838, 39	ECSTOJY108Z	T. CAPACITOR CH 6.3V 10U	2
R777	ERJ2GEOR00	M. RESISTOR CH 2W 0	1			C865, 66	ECUX1C104KBV	C. CAPACITOR CH 16V 0.1U	2
RA301-05	EXB24V473J	COMBI. R-R	47K	5		D801	MA338	DIODE	1
RA307	EXB24V473J	COMBI. R-R	47K	1		D803	1SS355	DIODE	1
RA310	EXB24V332J	COMBI. R-R	3.3K	1					
RA311, 12	EXB24V103J	COMBI. R-R	10K	2		FP801	VJS3319B018	CONNECTOR (FEMALE)	1
RA314, 15	EXB24V104J	COMBI. R-R	100K	2		FP802	VJS3319B016	CONNECTOR (FEMALE)	1
RA316	EXB24V152J	COMBI. R-R	1.5K	1					
RA317	EXB24V681J	COMBI. R-R	680	1		IC802	ET2070F0C	IC	1
RA319-21	EXB24V102J	COMBI. R-R	1K	3		IC805	TA75S558F	IC	1
RA323	EXB24V102J	COMBI. R-R	1K	1					
RA324	EXB24V473J	COMBI. R-R	47K	1		L801	VLQ0426J6R8	COIL	1
RA325	EXB24V101J	COMBI. R-R	100	1		L803-05	VLQ0807K100	COIL 10UH	3
RA333-39	EXB24V101J	COMBI. R-R	100	7		L881	VLQ0779K100	COIL 10UH	1

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Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R802	ERJ3GEYG102	M. RESISTOR CH 1/16W 1K	1	
R805	ERJ3GEYG102	M. RESISTOR CH 1/16W 1K	1	
R807, 08	ERJ3GEYG102	M. RESISTOR CH 1/16W 1K	2	
R832	ERJ3GEYJ104	M. RESISTOR CH 1/16W 100K	1	
R834	ERJ3GEYG102	M. RESISTOR CH 1/16W 1K	1	
R835	ERJ3GEYG472	M. RESISTOR CH 1/16W 4.7K	1	
R836	ERJ3GEYJ471	M. RESISTOR CH 1/16W 470	1	
R841	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1	
R849	ERJ3GEYJ471	M. RESISTOR CH 1/16W 470	1	
R850	ERJ3GEYJ223	M. RESISTOR CH 1/16W 22K	1	
R851	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R852	ERJ3GEYG882	M. RESISTOR CH 1/16W 6.8K	1	
R878, 79	ERJ3RBD183	M. RESISTOR CH 3W 18K	2	
R880	ERJ3RBD332	M. RESISTOR CH 3W 3.3K	1	
W802	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1	
	■ VEP06C28A	HALL SENSOR P. C. BOARD	1 (RTL)	
		MISCELLANEOUS		
	DN8787MS	HALL IC	2	
	■ VEP26195B	MONITOR P. C. BOARD	1 (RTL)	
C901	ECUX1C104KBV	C. CAPACITOR CH 16V 0.1U	1	
C902	ECUX1H102KBV	C. CAPACITOR CH 50V 1000P	1	
C903	ECST1AY108Z	T. CAPACITOR CH 10V 10U	1	
C904	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1	
C905	ECUX1H102KBV	C. CAPACITOR CH 50V 1000P	1	
C906	ECUM1A105KBN	C. CAPACITOR CH 10V 1U	1	
C909	ECUX1C104KBV	C. CAPACITOR CH 16V 0.1U	1	
C910	ECUX1H102KBV	C. CAPACITOR CH 50V 1000P	1	
C911	ECUM1A105KBN	C. CAPACITOR CH 10V 1U	1	
C912	ECST1VX225Z	T. CAPACITOR CH 35V 2.2U	1	
C922	ECST0JY156Z	T. CAPACITOR CH6.3V 15U	1	
C923	ECUX1C104KBV	C. CAPACITOR CH 16V 0.1U	1	
C924	ECUX1H270JCV	C. CAPACITOR CH 50V 27P	1	
C925	ECUX1H221JCV	C. CAPACITOR CH 50V 220P	1	
C926	ECUX1H1000CV	C. CAPACITOR CH 50V 10P	1	
C927	ECUX1H332KBV	C. CAPACITOR CH 50V 3300P	1	
C928	ECST0JY335Z	T. CAPACITOR CH6.3V 3.3U	1	
C929	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1	
C933	ECUM1A105KBN	C. CAPACITOR CH 10V 1U	1	
C934	ECUX1C104KBV	C. CAPACITOR CH 16V 0.1U	1	
C935	ECUM1A105KBN	C. CAPACITOR CH 10V 1U	1	
C938	ECUX1C104KBV	C. CAPACITOR CH 16V 0.1U	1	
D901	MA338	DIODE	1	
FP901	VJS3320B024	CONNECTOR (FEMALE)	1	
FP903	VJS3319B016	CONNECTOR (FEMALE)	1	
FP904	VJS3320D016	CONNECTOR (FEMALE)	1	
FP905	VJS3319D008	CONNECTOR (FEMALE)	1	
IC902	CXD2411AR	IC	1	
IC903	NJM2904V	IC	1	
IC904	LZ96B244	IC	1	
IC905	TC4W66FU	IC	1	
IC906	TC7ST04FU	IC	1	
IC907	TC7S14F	IC	1	
IC908	TC7ST08FU	IC	1	
IC909	NJM78L12UA	IC	1	
L901	VLQ0807K100	COIL 10UH	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
L902	VLQ0426J4R7	COIL 4.7UH	1	
L903	VLQ0807K100	COIL 10UH	1	
L904	VLQ0319M3R3	COIL 3.3UH	1	
L905	VLQ0807K100	COIL 10UH	1	
L907, 08	VLQ0807K100	COIL 10UH	2	
P901	VJP3972D004	CONNECTOR (MALE)	1	
Q901	XP4601	TRANSISTOR-RESISTOR	1	
Q903	XP1501	TRANSISTOR-RESISTOR	1	
Q904	XP4601	TRANSISTOR-RESISTOR	1	
Q905	2SD2216	TRANSISTOR	1	
Q906	XP1501	TRANSISTOR-RESISTOR	1	
QR901	XP4312	TRANSISTOR-RESISTOR	1	
QR905	MRN1104	TRANSISTOR	1	
QR906	XP4213	TRANSISTOR-RESISTOR	1	
R901, 02	ERJ3RBD153	M. RESISTOR CH 3W 15K	2	
R903	ERJ3GEYJ333	M. RESISTOR CH 1/16W 33K	1	
R905	ERJ3GEYJ333	M. RESISTOR CH 1/16W 33K	1	</

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Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
	■ VEP04684A	FRONT P. C. BOARD	1	(RTL)
C4903	ECUM1A105KBN	C. CAPACITOR CH 10V 1U	1	
C4905	ECSTOJX226Z	T. CAPACITOR CH6.3V 22U	1	
C4908	ECUM1A105KBN	C. CAPACITOR CH 10V 1U	1	
C4910, 11	ECSTOJX226Z	T. CAPACITOR CH6.3V 22U	2	
C4914	ECUX1C104KBV	C. CAPACITOR CH 16V 0.1U	1	
C4915	ECUX1C473KBV	C. CAPACITOR CH 16V 0.047U	1	
C4916	ECUX1C104KBV	C. CAPACITOR CH 16V 0.1U	1	
C4917	ECUX1C473KBV	C. CAPACITOR CH 16V 0.047U	1	
C6401	ECUX1C104KBV	C. CAPACITOR CH 16V 0.1U	1	
C6402	ECSTOJY156Z	T. CAPACITOR CH6.3V 15U	1	
D8801	CL150UR	DIODE	1	
FL4901	VLF1339B306	FILTER	1	
FL4902	VLF1341B306	FILTER	1	
FP4801	VJS3452A013	CONNECTOR (FEMALE)	1	
FP4901	VJS3319D006	CONNECTOR (FEMALE)	1	
FP4902	VJS3319B005	CONNECTOR (FEMALE)	1	
IR6401	VEK8283	REMOTE CONTROL RECEIVER	1	
J4901	VJJ0414	MIC JACK	1	
Q4901	2SC3929	TRANSISTOR	1	
Q4902	2SB1218A	TRANSISTOR	1	
Q4903	2SC3929	TRANSISTOR	1	
Q4904	2SB1218A	TRANSISTOR	1	
Q4905	2SD1819A	TRANSISTOR	1	
QR4903, 04	UN5212	TRANSISTOR-RESISTOR	2	
R4902	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1	
R4905	ERJ3GEYJ471	M. RESISTOR CH 1/16W 470	1	
R4906	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R4907	ERJ6GEYG154	M. RESISTOR CH 1/10W 150K	1	
R4908	ERJ6GEYG563	M. RESISTOR CH 1/10W 56K	1	
R4909	ERJ3GEYG102	M. RESISTOR CH 1/16W 1K	1	
R4910	ERJ3GEYJ562	M. RESISTOR CH 1/16W 5.6K	1	
R4911	ERJ3GEYJ151	M. RESISTOR CH 1/16W 150	1	
R4912	ERJ3GEYJ471	M. RESISTOR CH 1/16W 470	1	
R4913	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R4914	ERJ6GEYG154	M. RESISTOR CH 1/10W 150K	1	
R4915	ERJ6GEYG563	M. RESISTOR CH 1/10W 56K	1	
R4916	ERJ3GEYG102	M. RESISTOR CH 1/16W 1K	1	
R4917	ERJ3GEYJ562	M. RESISTOR CH 1/16W 5.6K	1	
R4918	ERJ3GEYJ151	M. RESISTOR CH 1/16W 150	1	
R4919	ERJ3GEYG472	M. RESISTOR CH 1/16W 4.7K	1	
R4924	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1	
R4925	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R4926	ERJ3GEYJ122	M. RESISTOR CH 1/16W 1.2K	1	
R4928	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1	
R4929	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R4930	ERJ3GEYJ122	M. RESISTOR CH 1/16W 1.2K	1	
R6803	ERJ6GEYG181	M. RESISTOR CH 1/10W 180	1	
		MISCELLANEOUS		
VSC4666		SHIELD COVER A	1	
VSC4667		SHIELD COVER B	1	
	■ VEP22270A	AWT SENSOR P. C. BOARD	1	(RTL)
C401	ECUX1C104KBV	C. CAPACITOR CH 16V 0.1U	1	
C402	ECSTOJY475Z	T. CAPACITOR CH6.3V 4.7U	1	

VEP22278A

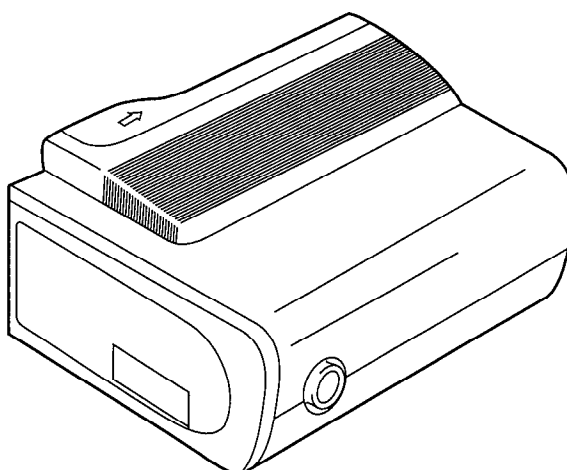
Ref.No.	Part No.	Part Name & Description	Pcs	Remarks	Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C163	ECUX1C153KBQ	C. CAPACITOR CH 16V 0.015U	1		IC502, 03	AN2018S	IC	2	
C500	ECST0JX476Z	T. CAPACITOR CH6.3V 47U	1		IC504	UPC2391AGB	IC	1	
C501	ECUX1A104KBQ	C. CAPACITOR CH 10V 0.1U	1		IC505	TA75W01FU	IC	1	
C504	ECST1AY108Z	T. CAPACITOR CH 10V 10U	1		IC506	AN2018S	IC	1	
C506	ECUX1H150JCQ	C. CAPACITOR CH 50V 15P	1		IC507	MB88344PFV	IC	1	
C507	ECUX1H180JCQ	C. CAPACITOR CH 50V 18P	1		IC508	RN5RG46AA	IC	1	
C508, 09	ECUX1H150JCQ	C. CAPACITOR CH 50V 15P	2		IC509	NJM2902V	IC	1	
C510	ECUX1H390JCQ	C. CAPACITOR CH 50V 39P	1		IC510	AK6480AF	IC	1	
C511	ECUX1H180JCQ	C. CAPACITOR CH 50V 18P	1						
C512	ECUX1H390JCQ	C. CAPACITOR CH 50V 39P	1		L101, 02	VLQ0807K100	COIL 10UH	2	
C513	ECUX1H180JCQ	C. CAPACITOR CH 50V 18P	1		L106-08	VLQ0807K100	COIL 10UH	3	
C514	ECUX1H390JCQ	C. CAPACITOR CH 50V 39P	1		L114	VLQ0780K330	COIL 33UH	1	
C515	EEJKOJS106	E. CAPACITOR 6.3V 10M	1		L501	VLQ0807K100	COIL 10UH	1	
C516-20	ECUX1A104KBQ	C. CAPACITOR CH 10V 0.1U	5		L502-04	VLQ0780K330	COIL 33UH	3	
C521	ECST0GY226Z	T. CAPACITOR CH 4V 22U	1		L505, 06	VLQ0807K100	COIL 10UH	2	
C522	ECUX1A104KBQ	C. CAPACITOR CH 10V 0.1U	1		L507	VLQ0780M8R8	COIL 6.8UH	1	
C523	ECUX1A224KBV	C. CAPACITOR CH 10V 0.22U	1		L512	VLQ0807K100	COIL 10UH	1	
C524	ECUX1C104KBV	C. CAPACITOR CH 16V 0.1U	1		L513	VLQ0780M8R8	COIL 6.8UH	1	
C525-27	ECUX1A104KBQ	C. CAPACITOR CH 10V 0.1U	3						
C528	ECUX1C104KBV	C. CAPACITOR CH 16V 0.1U	1		LB101	VLP0154	COIL	1	
C529	ECUX1A224KBV	C. CAPACITOR CH 10V 0.22U	1		LB102, 03	VLF1144A102	FILTER	2	
C530-41	ECUX1A104KBQ	C. CAPACITOR CH 10V 0.1U	12						
C542-44	EEJKOJS106	E. CAPACITOR 6.3V 10M	3		PP101	VJP3358C026	CONNECTOR (MALE)	1	
C545	ECUX1A104KBQ	C. CAPACITOR CH 10V 0.1U	1						
C546	ECUX1A224KBV	C. CAPACITOR CH 10V 0.22U	1		Q501-03	2SB1462-R	TRANSISTOR	3	
C547	ECUX1C104KBV	C. CAPACITOR CH 16V 0.1U	1		Q504	2SB1073	TRANSISTOR	1	
C548, 49	ECUX1A104KBQ	C. CAPACITOR CH 10V 0.1U	2		Q505	2SD2216	TRANSISTOR	1	
C550-58	ECUX1C103KBQ	C. CAPACITOR CH 16V 0.001U	9		Q506	2SB1462-R	TRANSISTOR	1	
C559	ECST0JX476Z	T. CAPACITOR CH6.3V 47U	1		Q507-09	2SD2216	TRANSISTOR	3	
C560	ECST0JY475Z	T. CAPACITOR CH6.3V 4.7U	1		Q510	2SB970X	TRANSISTOR	1	
C561, 82	ECUX1A104KBQ	C. CAPACITOR CH 10V 0.1U	2						
C563	ECST0JY156Z	T. CAPACITOR CH6.3V 15U	1		QR501-06	MRN1103	TRANSISTOR	6	
C564	ECUM1A225KBM	C. CAPACITOR CH 10V 22U	1						
C565	ECUX1A104KBQ	C. CAPACITOR CH 10V 0.1U	1		R101	ERJ2GEJ105	M. RESISTOR CH 2W 1M	1	
C566	ECST0JY156Z	T. CAPACITOR CH6.3V 15U	1		R102	ERJ2GEJ183	M. RESISTOR CH 2W 18K	1	
C567	ECUM1A225KBM	C. CAPACITOR CH 10V 22U	1		R104	ERJ2GEJ105	M. RESISTOR CH 2W 1M	1	
C568	ECUX1A104KBQ	C. CAPACITOR CH 10V 0.1U	1		R105	ERJ2GEOR00	M. RESISTOR CH 2W 0	1	
C569	ECST0JY156Z	T. CAPACITOR CH6.3V 15U	1		R111	ERJ2GEJ473	M. RESISTOR CH 2W 47K	1	
C570	ECUM1A225KBM	C. CAPACITOR CH 10V 22U	1		R112	ERJ2GEJ105	M. RESISTOR CH 2W 1M	1	
C571	ECST1AY106Z	T. CAPACITOR CH 10V 10U	1		R113	ERJ2GEOR00	M. RESISTOR CH 2W 0	1	
C572-74	ECUX1A104KBQ	C. CAPACITOR CH 10V 0.1U	3		R114, 15	ERJ2GEJ101	M. RESISTOR CH 2W 100	2	
C575, 76	ECST0JY156Z	T. CAPACITOR CH6.3V 15U	2		R116	ERJ2GEJ681	M. RESISTOR CH 2W 680	1	
C577	ECUX1A104KBQ	C. CAPACITOR CH 10V 0.1U	1		R117, 18	ERJ2GEJ271	M. RESISTOR CH 2W 270	2	
C578	ECST0JY156Z	T. CAPACITOR CH6.3V 15U	1		R127	ERJ2GEJ104	M. RESISTOR CH 2W 100K	1	
C579	ECUX1A105ZV	C. CAPACITOR CH 10V 1U	1		R131	ERJ2GEOR00	M. RESISTOR CH 2W 0	1	
C580	ECST0JY156Z	T. CAPACITOR CH6.3V 15U	1		R135	ERJ2GEJ104	M. RESISTOR CH 2W 100K	1	
C581	ECST1AY106Z	T. CAPACITOR CH 10V 10U	1		R138, 39	ERJ2GEJ104	M. RESISTOR CH 2W 100K	2	
C582, 83	ECUX1H150JCQ	C. CAPACITOR CH 50V 15P	2		R142	ERJ2GEJ105	M. RESISTOR CH 2W 1M	1	
C585	ECST0JY156Z	T. CAPACITOR CH6.3V 15U	1		R146	ERJ2GEJ102	M. RESISTOR CH 2W 1K	1	
C586	ECUX1A105ZV	C. CAPACITOR CH 10V 1U	1		R147	ERJ2GEJ221	M. RESISTOR CH 2W 220	1	
C587	ECUX1H150JCQ	C. CAPACITOR CH 50V 15P	1		R148-53	ERJ2GEJ330	M. RESISTOR CH 2W 33	6	
C589	ECUX1A104KBQ	C. CAPACITOR CH 10V 0.1U	1		R501, 02	ERJ2GEJ222	M. RESISTOR CH 2W 2.2K	2	
					R503-07	ERJ2GEJ681	M. RESISTOR CH 2W 680	5	
D103	MA728	DIODE	1		R508	ERJ2GEJ272	M. RESISTOR CH 2W 2.7K	1	
D104	1SS355	DIODE	1		R509	ERJ2GEJ681	M. RESISTOR CH 2W 680	1	
D105	MA728	DIODE	1		R510	ERJ2GEJ272	M. RESISTOR CH 2W 2.7K	1	
D110	MA728	DIODE	1		R511	ERJ2GEJ681	M. RESISTOR CH 2W 680	1	
D501	1SS355	DIODE	1		R512	ERJ2GEJ272	M. RESISTOR CH 2W 2.7K	1	
D502	MA741WK	DIODE	1		R513	ERJ2GEJ154	M. RESISTOR CH 2W 150K	1	
D503, 04	1SS355	DIODE	2		R514	ERJ2GEJ103	M. RESISTOR CH 2W 10K	1	
					R515	ERJ2GEJ681	M. RESISTOR CH 2W 680	1	
FL501-03	VLF1173	FILTER	3		R516	ERJ2RHD153	M. RESISTOR CH 2W 15K	1	
FL504-06	VLF1374	FILTER	3		R517	ERJ2RHD102	M. RESISTOR CH 2W 1K	1	
					R518	ERJ2GEJ103	M. RESISTOR CH 2W 10K	1	
FP501	VJS3971D051	CONNECTOR (FEMALE)	1		R519	ERJ2GEJ154	M. RESISTOR CH 2W 150K	1	
FP502	VJS3320B005	CONNECTOR (FEMALE)	1		R520, 21	ERJ2GEJ681	M. RESISTOR CH 2W 680	2	
					R522	ERJ2GEJ154	M. RESISTOR CH 2W 150K	1	
IC101, 02	TC7SH08FU	IC	2		R523	ERJ2GEJ103	M. RESISTOR CH 2W 10K	1	
IC106	MN5236	IC	1		R524	ERJ2RHD103	M. RESISTOR CH 2W 10K	1	
IC107, 08	MB87882PFV	IC	2		R525	ERJ2RHD513	M. RESISTOR CH 2W 51K	1	
IC109	T74VHC04FT	IC	1		R526	ERJ2GEJ102	M. RESISTOR CH 2W 1K	1	
IC110	TC7SH04FU	IC	1		R527	ERJ2GEJ681	M. RESISTOR CH 2W 680	1	
IC111	TC7SH08FU	IC	1		R528	ERJ2GEJ102	M. RESISTOR CH 2W 1K	1	
IC112	TC7SH04FU	IC	1		R529	ERJ2GEJ681	M. RESISTOR CH 2W 680	1	
IC501	NJU4051BVT	IC	1		R530	ERJ2GEJ102	M. RESISTOR CH 2W 1K	1	

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Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R531	ERJ2GEJ681	M. RESISTOR CH 2W 680	1	
R532	ERJ2RHD103	M. RESISTOR CH 2W 10K	1	
R533, 34	ERJ2RHD513	M. RESISTOR CH 2W 51K	2	
R535	ERJ2RHD103	M. RESISTOR CH 2W 10K	1	
R536	ERJ2GEJ102	M. RESISTOR CH 2W 1K	1	
R537, 38	ERJ2GEJ152	M. RESISTOR CH 2W 1.5K	2	
R539	ERJ2RHD272	M. RESISTOR CH 2W 2.7K	1	
R540	ERJ2RHD133	M. RESISTOR CH 2W 13K	1	
R541	ERJ2RHD183	M. RESISTOR CH 2W 18K	1	
R542	ERJ2RHD133	M. RESISTOR CH 2W 13K	1	
R543-45	ERJ2GEJ271	M. RESISTOR CH 2W 270	3	
R546	ERJ2GEJ102	M. RESISTOR CH 2W 1K	1	
R547	ERJ2RHD102	M. RESISTOR CH 2W 1K	1	
R548	ERJ2GEJ183	M. RESISTOR CH 2W 18K	1	
R549	ERJ2GEJ333	M. RESISTOR CH 2W 33K	1	
R550	ERJ2GEOR00	M. RESISTOR CH 2W 0	1	
R551	ERJ2GEJ153	M. RESISTOR CH 2W 15K	1	
R552	ERJ2GEJ103	M. RESISTOR CH 2W 10K	1	
R553	ERJ2RHD393	M. RESISTOR CH 2W 39K	1	
R554	ERJ2GEJ333	M. RESISTOR CH 2W 33K	1	
R555	ERJ2GEJ103	M. RESISTOR CH 2W 10K	1	
R556	ERJ2GEJ102	M. RESISTOR CH 2W 1K	1	
R557, 58	ERJ2GEJ223	M. RESISTOR CH 2W 22K	2	
R559	ERJ2GEJ153	M. RESISTOR CH 2W 15K	1	
R560-62	ERJ2GEJ103	M. RESISTOR CH 2W 10K	3	
R563-65	ERJ2GEJ153	M. RESISTOR CH 2W 15K	3	
R566	ERJ2GEJ103	M. RESISTOR CH 2W 10K	1	
R567	ERJ2GEJ153	M. RESISTOR CH 2W 15K	1	
R568	ERJ2GEJ103	M. RESISTOR CH 2W 10K	1	
R569	ERJ2GEJ153	M. RESISTOR CH 2W 15K	1	
R570	ERJ2GEJ103	M. RESISTOR CH 2W 10K	1	
R571	ERJ2GEJ153	M. RESISTOR CH 2W 15K	1	
R572	ERJ2GEJ103	M. RESISTOR CH 2W 10K	1	
R573	ERJ2RHD183	M. RESISTOR CH 2W 18K	1	
R574	ERJ2GEJ183	M. RESISTOR CH 2W 18K	1	
R575	ERJ2GEOR00	M. RESISTOR CH 2W 0	1	
R576	ERJ2GEJ822	M. RESISTOR CH 2W 8.2K	1	
R577	ERJ2GEJ103	M. RESISTOR CH 2W 10K	1	
R578	ERJ2GEJ154	M. RESISTOR CH 2W 150K	1	
R579	ERJ2GEJ103	M. RESISTOR CH 2W 10K	1	
R580	ERJ2GEJ154	M. RESISTOR CH 2W 150K	1	
R581	ERJ2GEJ100	M. RESISTOR CH 2W 10	1	
R582	ERJ2GEJ222	M. RESISTOR CH 2W 2.2K	1	
R585	ERJ2GEJ333	M. RESISTOR CH 2W 33K	1	
R586, 87	ERJ2GEJ222	M. RESISTOR CH 2W 2.2K	2	
R588	ERJ2GEJ821	M. RESISTOR CH 2W 820	1	
R589-91	ERJ2GEJ102	M. RESISTOR CH 2W 1K	3	
R592, 93	ERJ2GEJ332	M. RESISTOR CH 2W 3.3K	2	
W101	ERJ2GEOR00	M. RESISTOR CH 2W 0	1	
W105-07	ERJ2GEOR00	M. RESISTOR CH 2W 0	3	
W109	ERJ2GEOR00	M. RESISTOR CH 2W 0	1	
W112	ERJ2GEOR00	M. RESISTOR CH 2W 0	1	
W114	ERJ2GEOR00	M. RESISTOR CH 2W 0	1	
X101	VGR0501	CRYSTAL OSCILLATOR	1	
		MISCELLANEOUS		
	VGQ4731	BARRIER	1	
	VEP05352A	HEAD AMP P. C. BOARD	1 (RTL)	
C5001, 02	ECUX1C103KBQ	C. CAPACITOR CH 16V 0.001U	2	
C5004	ECUX1C103KBQ	C. CAPACITOR CH 16V 0.001U	1	
C5007	ECUX1C103KBQ	C. CAPACITOR CH 16V 0.001U	1	
C5010	ECUX1C103KBQ	C. CAPACITOR CH 16V 0.001U	1	
C5013	ECUX1E152KBQ	C. CAPACITOR CH 25V 1500P	1	
C5014	EEJKOJS106	E. CAPACITOR 6.3V 10M	1	
C5015	ECUX1C103KBQ	C. CAPACITOR CH 16V 0.001U	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C5016	ECUX1H330JCQ	C. CAPACITOR CH 50V 33P	1	
C5017	ECUX1C103KBQ	C. CAPACITOR CH 16V 0.001U	1	
C5018	ECUX1H220JCQ	C. CAPACITOR CH 50V 22P	1	
C5019	ECUX1C103KBQ	C. CAPACITOR CH 16V 0.001U	1	
C5020, 21	EEJKOJS106	E. CAPACITOR 6.3V 10M	2	
C5023, 24	ECUX1C103KBQ	C. CAPACITOR CH 16V 0.001U	2	
C5025	EEJKOJS106	E. CAPACITOR 6.3V 10M	1	
C5026	ECUX1E152KBQ	C. CAPACITOR CH 25V 1500P	1	
C5027	ECUX1H330JCQ	C. CAPACITOR CH 50V 33P	1	
C5028	ECUX1E122KBQ	C. CAPACITOR CH 25V 1200P	1	</

AC ADAPTOR
VW-AD3E



SPECIFICATIONS

ITEM	SPECIFICATION
POWER	Source: AC 100 ~ 240 V, 50 ~ 60 Hz
	Consumption: 20 W
	Output: DC 7.9 V, 11 W (Movie Camera Operation) DC 7.9 V, 1.2 A (Battery Charging)
OPERATING TEMPERATURE	0 ~ 40°C
OPERATING HUMIDITY	10 ~ 80%
DIMENSIONS	72 (W)×43 (H)×98 (D) mm
WEIGHT	170 g

Weight and dimensions shown are approximate.
Specifications are subject to change without notice.


CAUTION: FOR USE WITH DIGITAL VIDEO CAMERA RECORDER, MODEL AG-EZ10E, AG-EZ30E.
WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE.

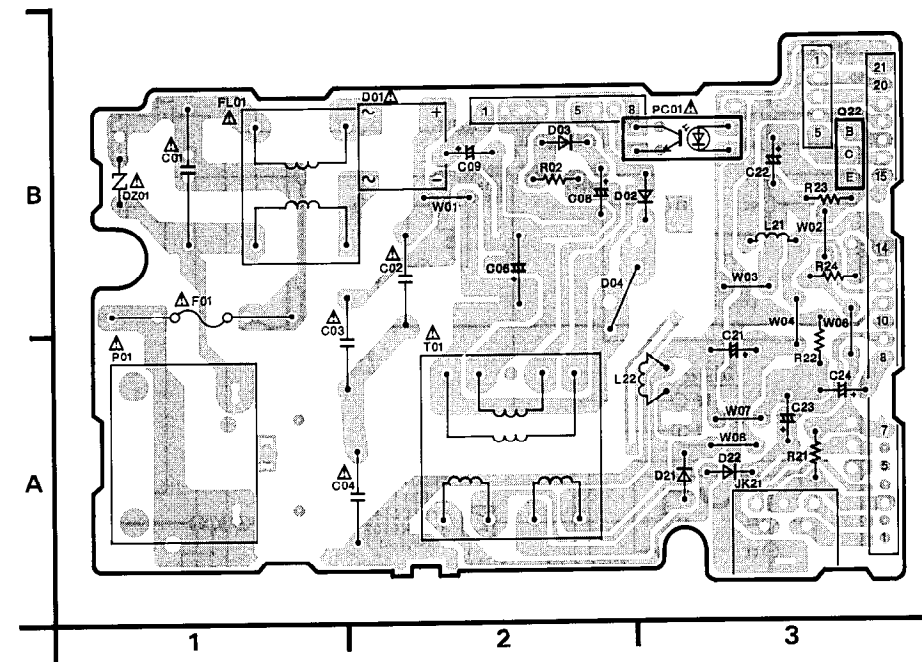
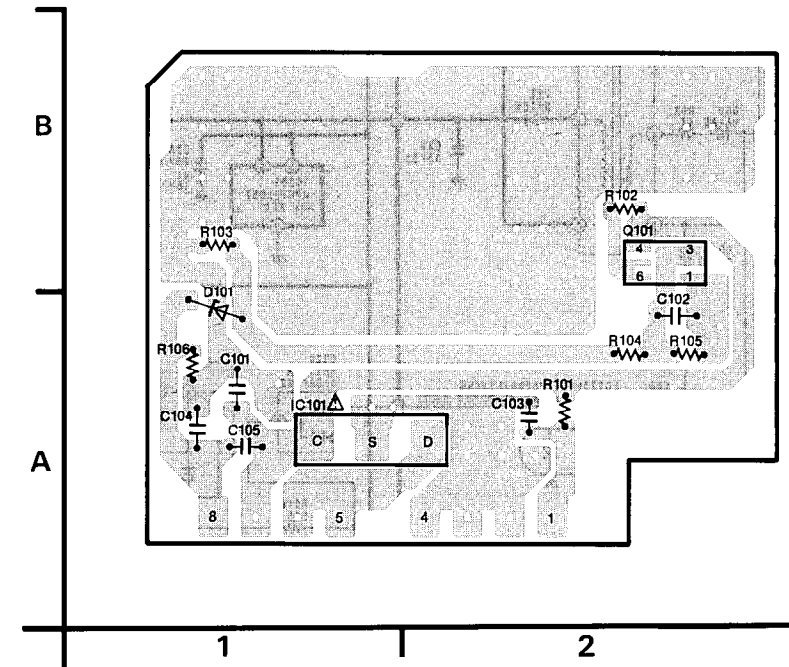
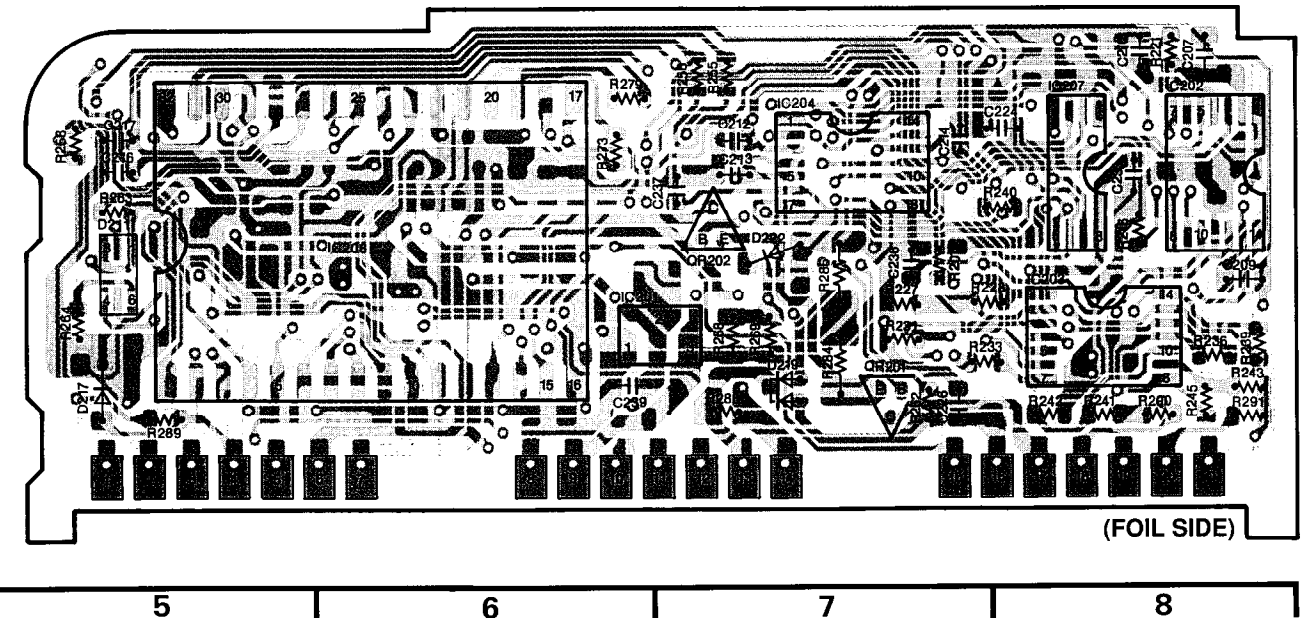
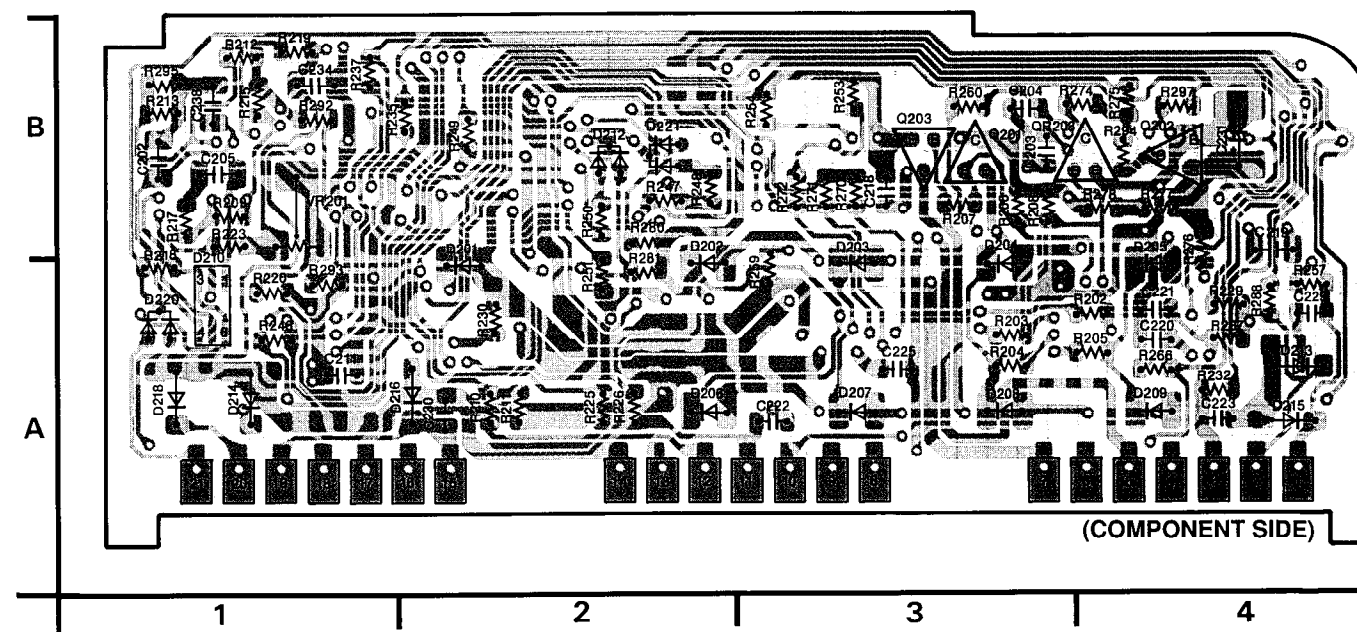
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2. AC ADAPTOR CIRCUIT BOARD DIAGRAM

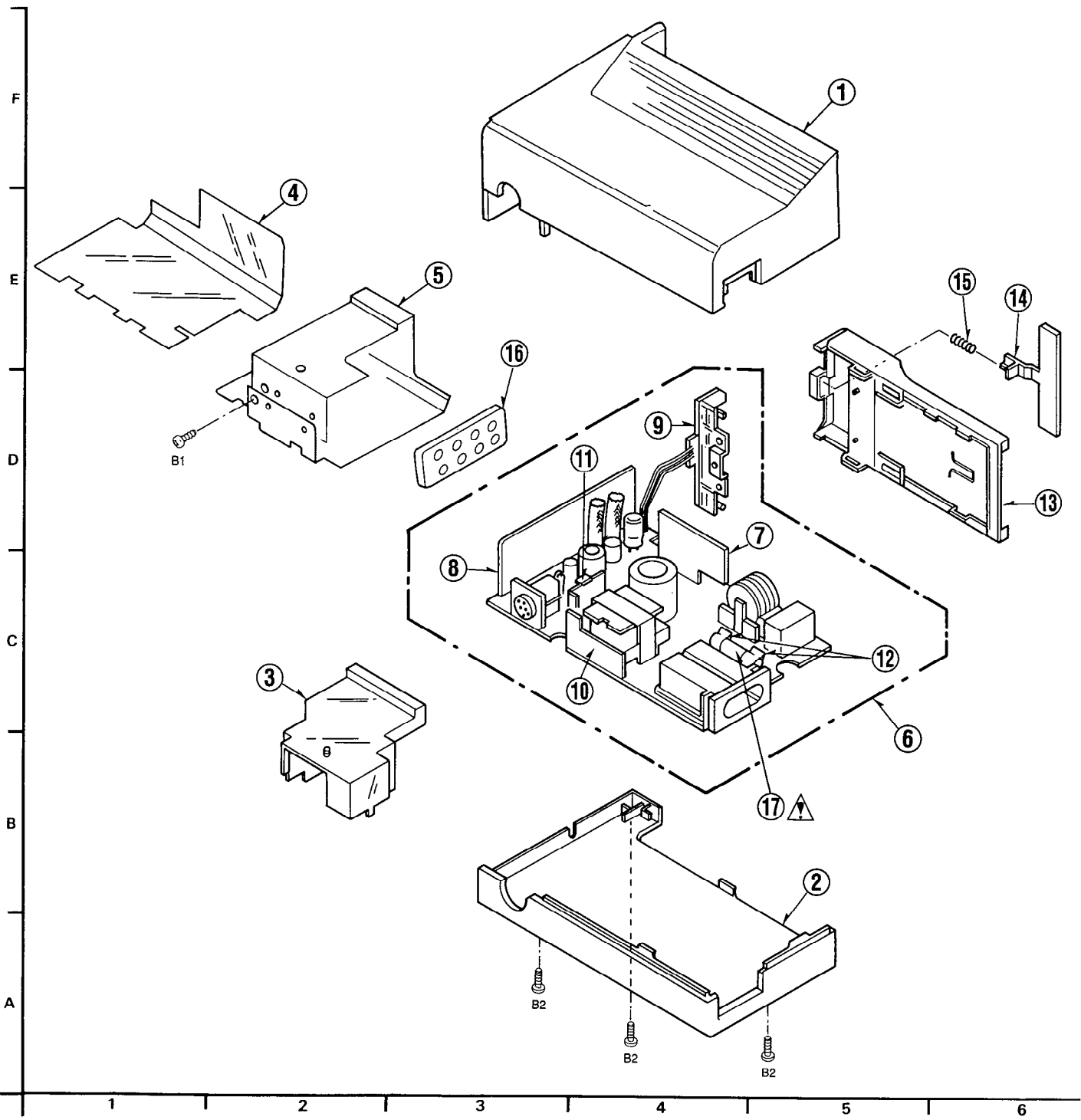
IMPORTANT SAFETY NOTICE:

COMPONENTS IDENTIFIED WITH THE MARK  HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

MAIN C.B.A. (VEP61257A)**MODULE AC C.B.A. (VEP60530A)****MODULE DC C.B.A. (VEP60531C)**

3. EXPLODED VIEWS & MECHANICAL REPLACEMENT PARTS LIST

① AC ADAPTOR SECTION

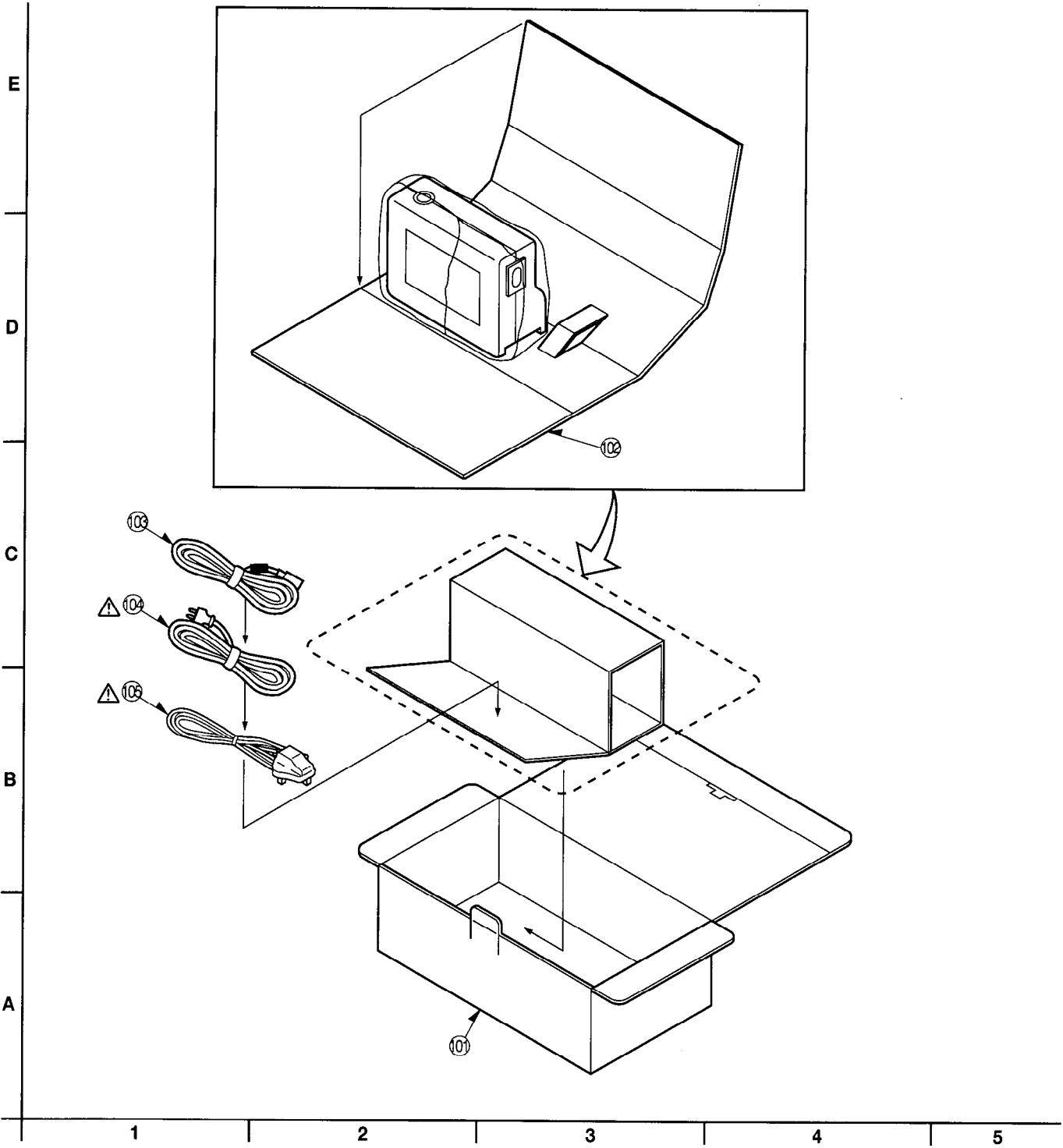


Note: 1. * Be sure to make your orders of replacement parts according to this list.
2. IMPORTANT SAFETY NOTICE
Components identified with the mark Δ have the special characteristics for safety. When replacing any of these components, use only the same type.

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
1	VYK7839	TOP CASE	1	
2	VKM3968	BOTTOM CASE	1	
3	VMZ2290	BARRIER (UPPER)	1	
4	VMZ2291	BARRIER (LOWER)	1	
5	VSC4086	SHIELD CASE	1	
6	VEP81257A	MAIN P. C. BOARD	1	
7	VEP80530A	MODULE AC P. C. BOARD	1	
8	VEP80531C	MODULE DC P. C. BOARD	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
9	VEK7229	BATTERY CATCHER	1	
10	VSC4104	HEAT SINK	1	
11	VMC0661	TR. SUPPORT SPRING	1	
12	VJF1013	FUSE HOLDER (N)	2	
13	VKM4048	HOLDER	1	
14	VKF2288	SHUTTER	1	
15	VMB2767	SPRING	1	
16	VMX2365	EXPRESSION FRAME	1	
Δ 17	XBA2C10TBOL	FUSE	1	
B1	XSB2+4FZ	SCREW	1	
B2	XTB2+8GFZ	SCREW	3	

② PACKING & ACCESSORIES SECTION



Note: 1. * Be sure to make your orders of replacement parts according to this list.
2. IMPORTANT SAFETY NOTICE
Components identified with the mark Δ have the special characteristics for safety. When replacing any of these components, use only the same type.

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
101	VP8522	PACKING CASE	1	
102	VPN4488	PAD	1	
103	VEK8228	DC CABLE ASS'Y	1	
Δ 104	VJA0998	AC CORD	1	
Δ 105	VJA0940	AC CORD	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks

4. ELECTRICAL REPLACEMENT PARTS LIST

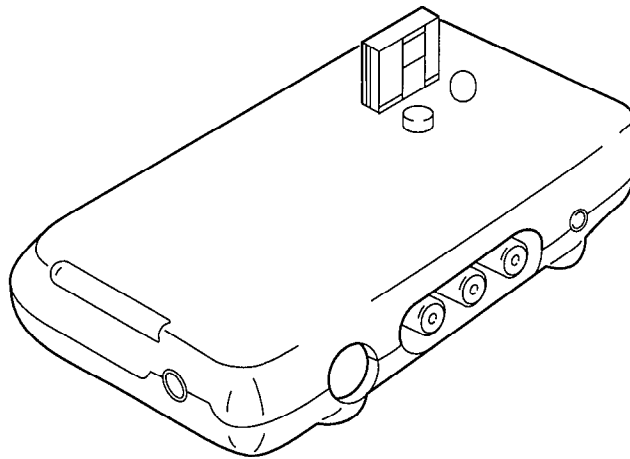
Note: 1. Be sure to make your orders of replacement parts according to this list.
2. IMPORTANT SAFETY NOTICE : Components identified with the mark Δ have the special characteristics for safety. When replacing any of these components, use only the same type.
3. Unless otherwise specified,
All resistors are in OHMS, K=1,000 OHMS. All capacitors are in MICROFARADS(μ F), P= μ F.
4. The P.C. Board units marked with "■" show below the main assembled parts.
5. The marking (RTL) indicates the retention time is limited for this item.
After the discontinuation of this assembly in production, it will no longer be available.

VEP61257B / VEP60530A / VEP60531F				
Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
■	VEP61257B	MAIN P. C. BOARD	1	(RTL)
■	VEP60530A	MODULE AC P. C. BOARD	1	FOR VEP61257B
■	VEP60531F	MODULE DC P. C. BOARD	1	FOR VEP61257B
Δ F01	XBA2C10TB0L	FUSE	1	
■	VEP61257B	MAIN P. C. BOARD	1	(RTL)
■	VEP60530A	MODULE AC P. C. BOARD	1	FOR VEP61257B
■	VEP60531F	MODULE DC P. C. BOARD	1	FOR VEP61257B
Δ C01	ECQU2A823MVA	P. CAPACITOR 100V 0.082U	1	
Δ C02-04	ECKFRS222ME	C. CAPACITOR 2200P	3	
C06	ECA26G470Y	E. CAPACITOR 400V 47U	1	
C08	ECA1HF63R3	E. CAPACITOR 50V 3.3U	1	
C09	ECEA1VGE470	E. CAPACITOR 35V 47U	1	
C21	EEUFA1C122BQ	E. CAPACITOR 16V 1200U	1	
C22	ECEA1CGE221	E. CAPACITOR 16V 220U	1	
C23	ECEA1VGE330	E. CAPACITOR 35V 33U	1	
C24	ECEA1CKG100	E. CAPACITOR 16V 10U	1	
C101	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	1	
C102	ECUX1C224KBN	C. CAPACITOR CH 18V 0.22U	1	
C103	ECUX1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C104	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C105	ECUX1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C201	ECUX1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C202	ECUM1E473KBN	C. CAPACITOR CH 25V 0.047U	1	
C203, 04	ECUX1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C205	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	1	
C209	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	1	
C211, 12	ECUX1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C214	ECUX1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
C217, 18	ECUX1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C219	ECUX1C224KBN	C. CAPACITOR CH 18V 0.22U	1	
C220-24	ECUX1E104ZFN	C. CAPACITOR CH 25V 0.1U	5	
C226	ECUX1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C228, 30	ECUX1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C231	ECST0GY156Z	T. CAPACITOR CH6.3V 15U	1	
C234	ECUM1C105ZFN	C. CAPACITOR CH 18V 1U	1	
C237	ECUX1H102KBN	C. CAPACITOR CH 50V 1000P	1	
C238	ECUM1E473KBN	C. CAPACITOR CH 25V 0.047U	1	
C239	ECUX1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
Δ D01	S1WBA60S	DIODE	1	
D02	ERA22-08	DIODE	1	
D03	MA185	DIODE	1	
D04	VSD0119	DIODE	1	
D21	F5KF20	DIODE	1	
D22	MA185	DIODE	1	
D101	MA3380-L	DIODE	1	
D201	CL170HR-CD	DIODE	1	
D206-09	CL170YG-CD	DIODE	4	
D210, 11	UMN11N	DIODE	2	
D212	MA132WK	DIODE	1	
D214	MA3120	DIODE	1	
D215, 16	MA8062-M	DIODE	2	
D218	MA3062M	DIODE	1	
D219, 20	MA132WA	DIODE	2	
D222	MA3051-L	DIODE	1	
Δ DZ01	ERZVA5D471	DIODE	1	
Δ FL01	ELF18D296H	COIL	1	
IC101	MIP175000L	IC	1	
IC201	UPC78L05T	IC	1	
IC202, 03	BA10324AFV	IC	2	
IC204	BA10339FV	IC	1	
IC206	LU5K6B24	IC	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
JK21	VJJ0398	DC JACK	1	
L21	VLQ0611K220	COIL 22U	1	
L22	VLP0111	COIL	1	
Δ P01	VJS3306	CONNECTOR (FEMALE)	1	
Δ PC01	PC123FY2	PHOTO COUPLER	1	
Q22	2SA1897	TRANSISTOR	1	
Q101	XP4801	TRANSISTOR-RESISTOR	1	
Q202	2SD1819A	TRANSISTOR	1	
Q203	2SB1462	TRANSISTOR	1	
QR201	UN9211	TRANSISTOR-RESISTOR	1	
QR203	UN9211	TRANSISTOR-RESISTOR	1	
R02	ERDS2TJ470	C. RESISTOR 1/4W 47	1	
R21	ERX1SZJR10	M. RESISTOR 1W 0.1	1	
R22	ERX1SZGR10	M. RESISTOR 1W 0.1	1	
R23	ERG2SJ151	M. RESISTOR 2W 150	1	
R24	ERG1SJ151	M. RESISTOR 1W 150	1	
R101	ERJ3GEYJ220	M. RESISTOR CH 1/16W 22	1	
R102, 03	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	2	
R104, 05	ERJ3GEYJ474	M. RESISTOR CH 1/16W 470K	2	
R106	ERJ3GEYJ272V	M. RESISTOR CH 1/16W 2.7K	1	
R201	ERJ3GEYJ681	M. RESISTOR CH 1/16W 680	1	
R202-05	ERJ3GEYJ181	M. RESISTOR CH 1/16W 180	4	
R206, 07	ERJ3GEYJ392	M. RESISTOR CH 1/16W 3.9K	2	
R208	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R209	ERJ3GEYJ332	M. RESISTOR CH 1/16W 3.3K	1	
R210	ERJ3RBD513	M. RESISTOR 3W 51K	1	
R211	ERJ3RBD104	M. RESISTOR CH 3W 100K	1	
R212	ERJ3GEYJ332	M. RESISTOR CH 1/16W 3.3K	1	
R213	ERJ3GEYJ183	M. RESISTOR CH 1/16W 18K	1	
R215	ERJ3RED124	M. RESISTOR CH 3W 120K	1	
R216	ERJ3RBD302	M. RESISTOR CH 3W 3K	1	
R217	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R218	ERJ3GEYJ221	M. RESISTOR CH 1/16W 220	1	
R219	ERJ3GEYJ123	M. RESISTOR CH 1/16W 12K	1	
R220	ERJ3GEYJ273	M. RESISTOR CH 1/16W 27K	1	
R223	ERJ3GEYJ332	M. RESISTOR CH 1/16W 3.3K	1	
R225, 26	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	2	
R227	ERJ3RBD112	M. RESISTOR CH 3W 1.1K	1	
R228	ERJ3RBD243	M. RESISTOR CH 3W 24K	1	
R229	ERJ3GEYJ472	M. RESISTOR CH 1/16W 4.7K	1	
R230	ERJ3GEYJ471	M. RESISTOR CH 1/16W 470	1	
R231	ERJ3GEYJ474	M. RESISTOR CH 1/16W 470K	1	
R232	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R233	ERJ3GEYJ472	M. RESISTOR CH 1/16W 4.7K	1	
R241	ERJ3RED184	M. RESISTOR CH 3W 180K	1	
R242	ERJ3RBD104	M. RESISTOR CH 3W 100K	1	
R243	ERJ3RED184	M. RESISTOR CH 3W 180K	1	
R245	ERJ3RBD104	M. RESISTOR CH 3W 100K	1	
R246	ERJ3GEYJ152	M. RESISTOR CH 1/16W 1.5K	1	
R249	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R250	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R252	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R254	ERJ3GEYJ333	M. RESISTOR CH 1/16W 33K	1	
R256, 57	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	2	
R258	ERJ3GEYJ472	M. RESISTOR CH 1/16W 4.7K	1	
R259	ERJ3RBD103	M. RESISTOR CH 3W 10K	1	
R260	ERJ3GEYJ472	M. RESISTOR CH 1/16W 4.7K	1	
R263	ERJ3GEYJ224	M. RESISTOR CH 1/16W 220K	1	
R264	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1	
R266	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R267	ERJ3GEYJ433	M. RESISTOR CH 1/16W 43K	1	
R268, 69	ERJ8GEYJ122	M. RESISTOR CH 1/10W 1.2K	2	
R270	ERJ3RBD681	M. RESISTOR CH 3W 680	1	
R271	ERJ3RBD682	M. RESISTOR CH 3W 6.8K	1	
R273	ERJ3GEYJ183	M. RESISTOR CH 1/16W 18K	1	
R274	ERJ3RED204	M. RESISTOR CH 3W 200K	1	
R275	ERJ3RBD104	M. RESISTOR CH 3W 100K	1	
R276	ERJ3GEYJ221	M. RESISTOR CH 1/16W 220	1	
R277	ERJ3GEYJ124	M. RESISTOR CH 1/16W 120K	1	

VEP60531F				
Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R278	ERJ3GEYJ104	M. RESISTOR CH 1/16W 100K	1	
R279	ERJ3RBD273	M. RESISTOR CH 3W 27K	1	
R281	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R284, 85	ERJ8GEYJ221	M. RESISTOR CH 1/8W 220	2	
R286	ERJ6GEYJ122	M. RESISTOR CH 1/10W 1.2K	1	
R290, 91	ERJ3RBD103	M. RESISTOR CH 3W 10K	2	
R292	ERJ3GEYJ153	M. RESISTOR CH 1/16W 15K	1	
R293	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R294	ERJ3GEYJ332	M. RESISTOR CH 1/16W 3.3K	1	
R295	ERJ3GEYJ183	M. RESISTOR CH 1/16W 18K	1	
R297	ERJ3GEYJ433	M. RESISTOR CH 1/16W 43K	1	
Δ T01	VLT0738	TRANSFORMER	1	
VR201	EVM7JGA00B15	V. RESISTOR 100K	1	
		MISCELLANEOUS		
Δ	VJF1013	FUSE HOLDER	2	
	VEK7229	BATTERY CATCHER	1	
	VSC4104	HEAT SINK	1	
	VMC0661	TRANSISTOR HOLDER	1	
	VJR0754	CONNECTOR	19	FOR VEP60530A
	VJR0754-	CONNECTOR	32	FOR VEP60531F

OUTPUT TERMINAL BOX



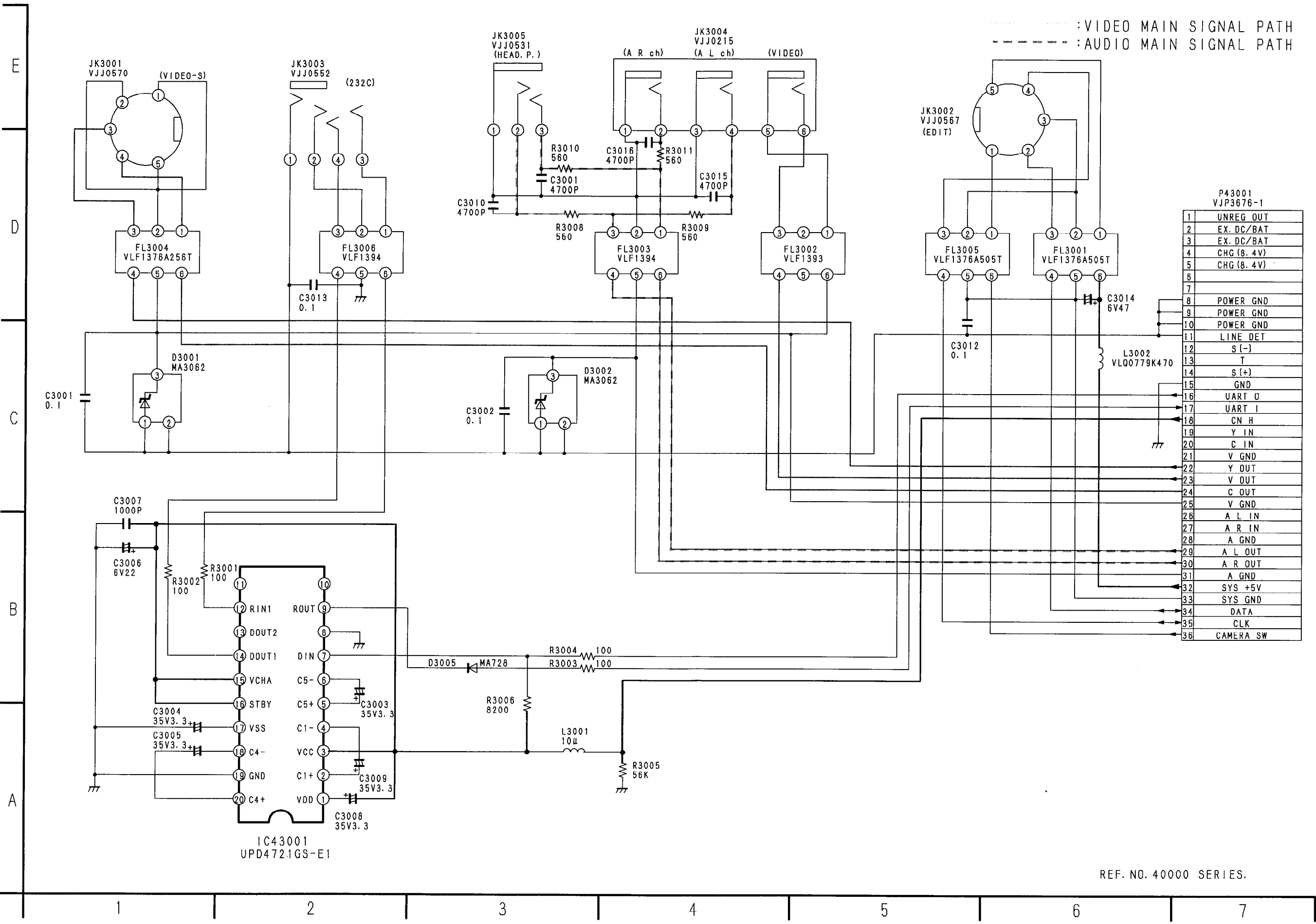
CAUTION: FOR USE WITH DIGITAL VIDEO CAMERA RECORDER, MODEL AG-EZ10E, AG-EZ30E.

WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE.

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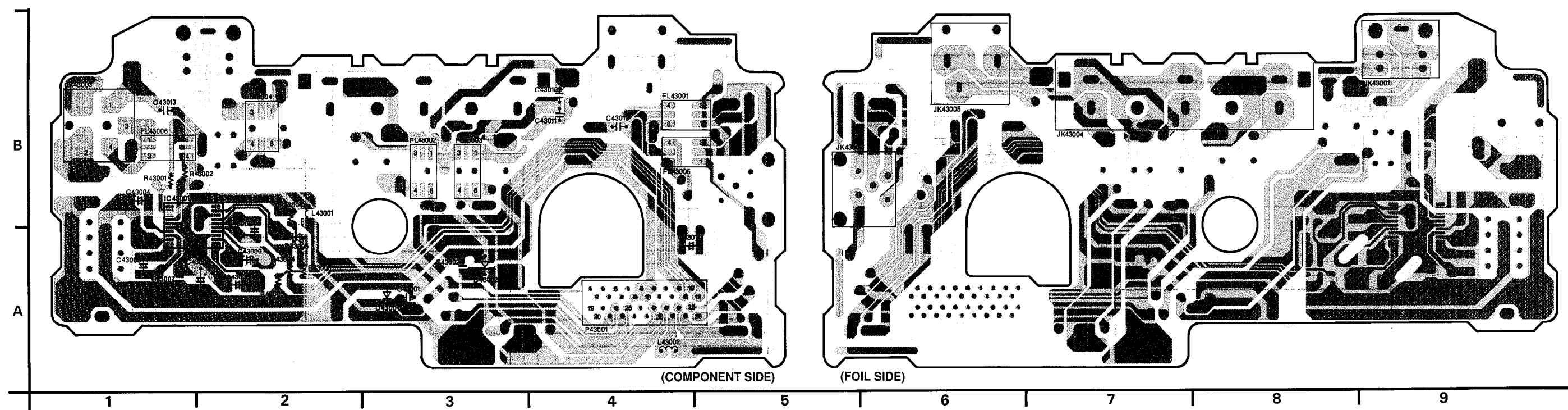
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1. OUTPUT TERMINAL BOX SCHEMATIC DIAGRAM

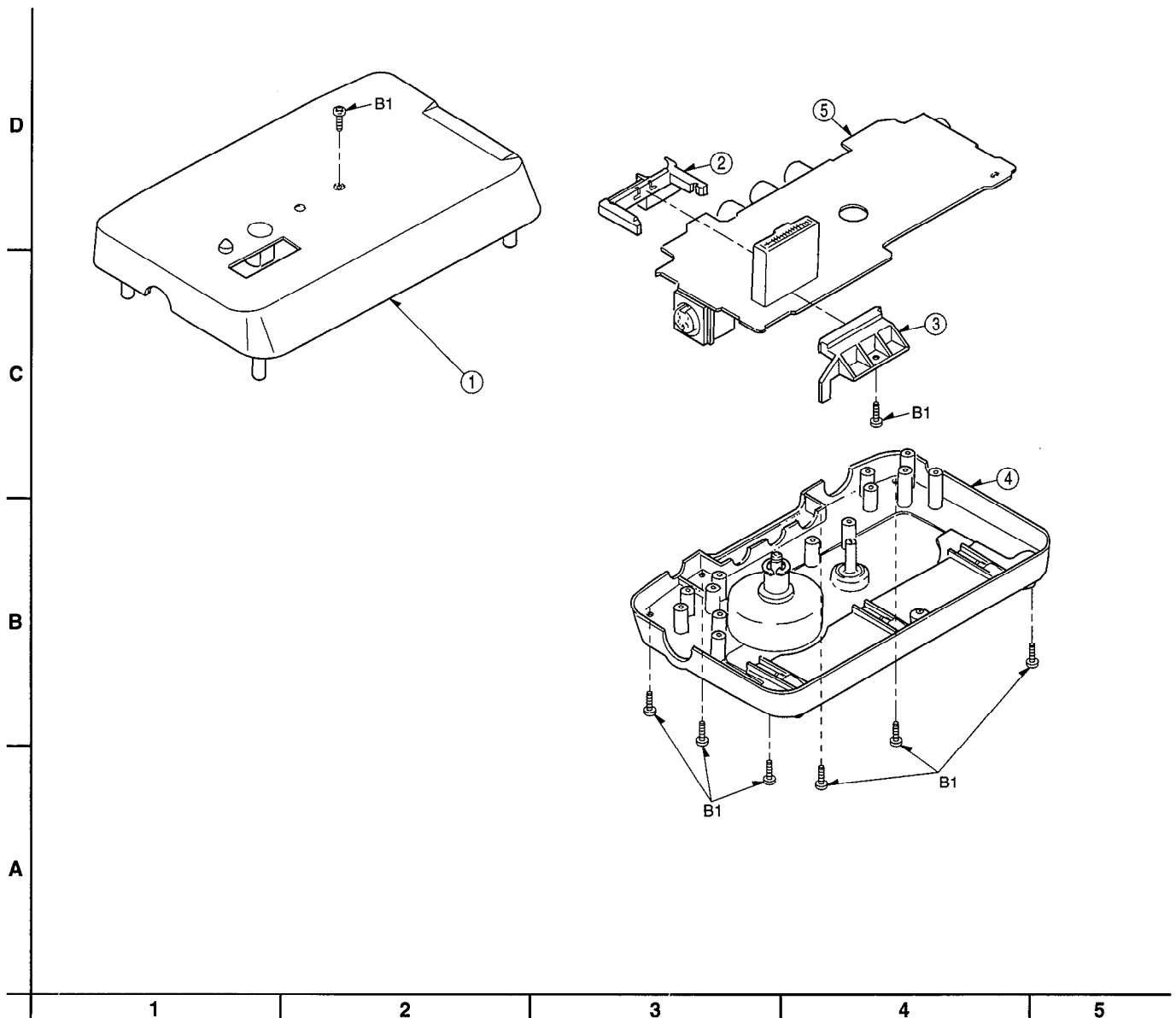


REF. NO. 40000 SERIES.

2. OUTPUT TERMINAL BOX CIRCUIT BOARD DIAGRAM




3. EXPLODED VIEWS & MECHANICAL REPLACEMENT PARTS LIST



Note: 1. * Be sure to make your orders of replacement parts according to this list.

2. IMPORTANT SAFETY NOTICE

Components identified with the mark  have the special characteristics for safety. When replacing any of these components, use only the same type.

Ref.No.	Part No.	Part Name & Description	Qty	Remarks
1	VKM4770	TOP CASE	1	
2	VGO4458	HOLDER A	1	
3	VGO4457	HOLDER B	1	
4	VYK7872	BOTTOM CASE	1	
5	VEP63203A	OUTPUT TERMINAL BOX P.C.B	1	
B1	XTB2+8GFZ	SCREW	8	

[illegible]

4. ELECTRICAL REPLACEMENT PARTS LIST

Note: 1. Be sure to make your orders of replacement parts according to this list.
2. **IMPORTANT SAFETY NOTICE :** Components identified with the mark Δ have the special characteristics for safety. When replacing any of these components, use only the same type.
3. Unless otherwise specified,
All resistors are in OHMS, K=1,000 OHMS. All capacitors are in MICROFARADS(μ F), P= μ UF.
4. The P.C. Board units marked width "■" show below the main assembled parts.
5. The marking (RTL) indicates the retention time is limited for this item.
After the discontinuation of this assembly in production, it will no longer be available.

[illegible][illegible]

Panasonic